CA08-04-0111

IMAGED

IN THE COURT OF COMMON PLEAS BUTLER COUNTY, OHIO

STATE OF OHIO,

Plaintiff, : Case No. CR 1983-12-0614

vs.

VON CLARK DAVIS : Judge Daniel Andrew Nastoff

Defendant.

VON CLARK DAVIS' MOTION TO PRECLUDE IMPOSITION OF THE DEATH PENALTY BECAUSE OHIO'S LETHAL INJECTION CONSTITUTES CRUEL AND UNUSUAL PUNISHMENT

APPENDIX, VOLUME I

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COUNSEL FOR VON CLARK DAVIS



CERTIFICATE OF SERVICE

I hereby certify that two true copies of the foregoing Appendix, Volume I to Von Clark Davis' Motion To Preclude Imposition Of The Death Penalty Because Ohio's Lethal Injection Constitutes Cruel And Unusual Punishment was hand delivered to the Offices of Daniel G. Eichel, First Assistant Butler County Prosecuting Attorney, and Michael A. Oster, Jr. Assistant Butler County Prosecuting Attorney at the Government Services Center, 315 High Street, Hamilton, Ohio 45011 on this 27th day of May, 2008.

GOUNSEL FOR VON CLARK DAVIS

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OHIO DEPARTMENT OF REHABILITATION AND CORRECTION

LORAIN COUNTY COURT OF COMMON PLEAS

State v. Rivera, Case Number 04CR065940 State v. McCloud, Case Number 05CR068067

Materials prepared by Director Terry Collins Department of Rehabilitation and Correction Pursuant to Order of the Court November 1, 2007



VON CLARK DAVIS v. WARDEN CASE NO. 2:16-cv-00495 APPENDIX - Page 3322

LORAIN COUNTY COURT OF COMMON PLEAS Ohio Department of Rehabilitation and Correction

State of Ohio vs. Ruben Rivera, State of Ohio vs. Ronald McCloud Case No. 04CR065940 Case No. 05CR068067

RESPONSE OF TERRY J. COLLINS, DIR. OF DEPARTMENT OF REHABILITATION & CORRECTION TO ORDER OF 11/01/07

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From Opinion and Journal Entry of July 24, 2007, at page 6, attached to above order:

 An exhaustive and detailed list of all equipment and supplies used in the lethal injection process;

1

* See Tab 4, Medical Equipment and Supplies; Tab 5, Timelines; Tab 6, Survey with Additional Information; and Tab 7, Policies – A.

- Specifications and maintenance procedures for all equipment and supplies identified in #1 above;
 - * See Tab, Medical Equipment and Supplies; Tab 5, Timelines; Tab 6, Survey with Additional Information; Tab 7, Policies A; and Tab 8, Policies B.
- Specifications on the set-up of the intravenous bag of fluids, drip chamber(s), flow regulator(s), IV tubing, stopcock(s), injection port(s), and/or means of injection;
 - * See Tab 1, Guidelines; Tab 4, Medical Equipment and Supplies; Tab 6, Survey with Additional Information; and Tab 7, Policies A.
- Specifications, plans and procedures to be implemented when intravenous access cannot be obtained through an arm or a leg;
 - * See Tab 1, Guidelines; Tab , Training; and Tab 6, Survey with Additional Information.
- The physical design, layout and dimensions (including any blueprints or diagrams)
 of the execution chamber and surrounding areas used in the lethal injection
 process;
 - * See Tab 6, Survey with Additional Information; and Tab 7, Policies A.
- Specifications and maintenance procedures for how the drugs used in the lethal injection process are acquired, stored, maintained, examination of their shelf life and expiration dates, and how they are prepared for administration; and,
 - * See Tab 1, Guidelines; Tab 4, Medical Equipment and Supplies; Tab 6, Survey with Additional Information; Tab 7, Policies A; and Tab 8, Policies B.
- A list of job qualifications, certifications, training and experience required of
 persons who participate in any way in the preparation and carrying out of the lethal
 injection process.
 - * See Tab 1, Guidelines; Tab 2, Medical Certifications; Tab 4, Training; Tab 6, Survey with Additional Information; Tab 7, Policies A; and Tab 11, Summary of Qualifications, Certifications and Experience.

GUIDELINES

Protocol for the SOCF Execution Team

Pursuant to DRC policy 01-COM-11, the Execution Team consists of no less than twelve (12) members, designated by the Warden of the Southern Ohio Correctional Facility (SOCF) and the Religious Services Administrator. Their duties include preparation and testing of equipment, carrying out pre and post execution activities; and monitoring the offender's behavior/attitude. The role of the Religious Services Administrator is to serve as a liaison between the inmate, his/her family members, and his/her spiritual advisor; or to serve as the spiritual advisor upon request.

The following protocol/policy language is submitted to document the manner in which team members are recruited, screened, selected, trained and reviewed:

Recruitment of Execution Team Members

When a vacancy occurs among the general team members (non-medical), a posting is placed by the SOCF employee time clock for viewing by all incoming and outgoing staff members. Interested staff members are directed to express their desire to join the execution team, a brief biography of their correctional experience, and the reasons why would like to join the team; all of which is to be forwarded to the Execution Team Leader by the posted deadline.

When a vacancy occurs among the medical team members a similar notice is posted. In addition, the Bureau of Medical Services is notified to assist in department wide recruitment for qualified individuals.

Selection Criteria for New Team Members

The criteria and selection process for general team members are as follows:

- · Written applications are turned in to the Execution Team Leader.
- Applications are screened for discipline and attendance issues, additional specialized training, and overall employment record.
- Applications are reviewed and subject to approval by the Warden, Deputy Warden of Operations, Chief of Security and the Execution Team Leader.
- Approved applicants are then reviewed with the Execution Team and a team vote is held. Confidentiality and trust are essential elements for the operation of the team.

The criteria and selection process for medical team members are as follows:

- Applicant must be qualified under Ohio law to prepare and administer intravenous drugs; and/or to start an intravenous injection (depending on the medical team vacancy).
- Applicants are reviewed for any discipline or attendance issues, as well as their overall employment record.

 If selected for the team, the applicant is afforded the opportunity to attend the next scheduled execution rehearsal in order to meet the team, observe the process and finalize their membership on the team.

The Execution Team Leader and Assistant Team Leader are jointly approved between the Warden and the team members. The criteria and selection of Leadership decisions are based upon the individual's leadership skills, knowledge of the execution process, and experience on the team.

Criteria for Removal from the Team

Current team members must maintain a good employment record, as determined by the Warden, including but not limited to an annual review of the employee's attendance record, disciplinary record, leave usage, and overall job performance.

For medical team members, any failure to maintain current certifications and/or continuing education requirements will result in an immediate dismissal from the team.

On-going Team Training

General and medical team members will participate in on-going training, no less than four times per year. NOTE: this is training that goes above and beyond the execution routine that is rehearsed pursuant to DRC policy 01-COM-11.

Medical team members are required to participate in all necessary continuing education requirements for their respective licensure/certification.

Process Improvement/Quality Assurance Issues ODRC Execution Process

Facilitated by Edwin C. Voorhies, Jr., Warden Southern Ohio Correctional Facility

Pursuant to direction from Director Collins, the following issues are being reviewed in an effort to refine and/or improve elements of the execution process for the Ohio Department of Rehabilitation and Correction. Each issue will be individually identified and accompanied by recommendations for change/improvement. Wherever necessary, issues or procedures that require policy changes are properly identified.

Issue #1 Adherence to Incident Command System protocol during Execution process.

Recommendations;

- Special nieal requests will be reviewed by the Execution Team Leader and posted on the timeline.
- Incident Commander & Warden will evaluate request and render approval and/or any modifications to request.
- Once approved, the special meal request will be forwarded to the PIO and DRC PIO for media release.
- All parties (staff or visitors) must receive clearance from the Command Post prior to proceeding to the Death House.
- Condemned immate has the right to refuse any/all visitors. Execution Team Leader will serve as liaison between immate and Incident Commander.
- All SOCE staff requiring access to the Death House will enter through the back of J-1. Timing for cell front access to be determined by the Team Leader.
- Notification of OSP re: completion of execution.

Issue #2 Execution Protocols.

Recommendations:

- Develop "checklist" for preparatory and execution protocols.
- Formalize vein inspection process, previously done during medical exam without the immate's knowledge. Propose briefing inmate and formally assessing viability of veins at primary injection sites.
- Prepare a second complete set of syringes for contingencies.
- Eliminate "self imposed" time pressures/constraints re: establishing injection sites.
- Utilize medical cart (laid out and labeled for medical team supplies).
- Make provisions for the comfort of medical team members during insertion process (stools w/wheels and adjustable sears).

Issue #2 Execution Protocols (continued).

Recommendations:

- Formally develop contingency plans re: delays (short & long term). Briefing for wimesses, breaks, etc.
- Maintain existing bed position (for improved visibility by equipment room).
- Restraint team will roll up the inmate's sleeves during restraint process to improve injection site visibility.
- "Low pressure" saline flow would begin as soon as lines are connected and would
 continue throughout last statement (further verifying continuity of the vein).
 Equipment room will signal (solid light for good flow & flickering light for no
 flow). Oversight provided by equipment room checklist.
- Utilize "double signal" system. First signal begins Thiopental Sodium followed by "low pressure" saline thish (requires policy change). Equipment room signals back once Thiopental Sodium and saline flush is taking place (approx. 10 second flush). Visual exam for infiltration of the vein coupled with medical team verifying flow. Once complete, second signal begins remainder of injections. (Discuss potential changes for high vs. low pressure flush between Paneuronium Bromide and Potassium Chloride; does the same logic apply, or is this the point of no return? "low pressure" would require policy change).
- Revise contingency plan for delayed process (before second signal is given).
 medical team members and 2) restraint team members will enter the chamber.
 Only one medical team member will attempt to establish new injection site(s).
- Improve labeling & anchoring of the IV lines in the equipment room (verified by checklist prior to start).

Issue #3 Utilization of a Monitor

Recommendations:

- Maintain current policy/practice unless mandated otherwise.
- If monitor is mandated, medical team and/or HCA could be trained to monitor



1050 Freeway Drive North Columbus, Ohio 43229

Bob Tatt, Governor

www.drc.stale.oh.us

Terry J. Collins, Director

June 27, 2006

TO:

Governor Bob Taft

FROM:

Director Terry J. Collins Lung Rollins

RE:

Joseph Clark Execution

As you requested, a review of the May 2, 2006 execution of Joseph Clark has been completed. Inmate Clark's execution took an unprecedented amount of time in comparison to the previous twenty (20) executions. The fact that the team had difficulty in establishing the IV's, and then lost use of the only IV site, accounted for the delay.

On May 15, 2006 a meeting was held with counsel from the Attorney General's office, members of DRC legal staff, Southern Ohio Correctional Facility (SOCF) Warden Ed Voorhies, Assistant Director Mike Randle, and myself. This meeting was to determine if refinements to the existing process should or could be made. After much discussion consensus was reached that the review should address the issue that created the delay, that being the insertion of the IV's. A follow up meeting was held on June 12, 2006 to conclude the process review and finalize the recommendations which were submitted to my office (a copy is attached).

The group made five (5) recommendations and I have accepted all recommended actions. The recommendations and process changes are defined below:

- 1. Time Pressures: Our current practice has created an artificial self-imposed time barrier resulting in enormous pressure on the execution team members. Allowing this expectation has caused staff to believe they must act quickly, contributing to the difficulty of the task. PROCESS CHANGE: Removal of the barrier by advising staff that we have no requirement to act within the self-imposed narrow time frame. In addition, we should advise all persons witnessing and the media that the process may take longer, which does not mean there are issues. Our goal is to always complete the process in a professional and dignified manner for all parties.
- 2. Prior Evaluation: The current practice has been to review the medical file and make a visual observation of the inmate upon arrival at SOCF the day before the execution. PROCESS CHANGE: Upon arrival the medical file will be reviewed and to the extent possible, a hands-on evaluation will be completed. Later that evening, at a time determined by the SOCF Warden, another hands-on evaluation, to the extent possible, will be conducted. Finally, the morning of the

execution a hands-on evaluation, to the extent possible, will be conducted no later than 9:00 a.m. All evaluations will be used to determine if potential problems exist and if so what alternatives may be employed to reduce the problem.

- 3. IV Sites: Our practice has been to have two (2) IV sites, one in each arm. In the case of Joseph Clark the team was unsuccessful in obtaining a second site. A decision was made to proceed with one established site, which became compromised and caused the interruption. PROCESS CHANGE: In the future every effort will be made to obtain two (2) sites prior to proceeding from the holding cell to the chamber.
- 4. Low Pressure Drip: The current process to check the viability of the IV line has been by the use of saline injection via syringe which is termed "high pressure" injection. An alternative method is to establish a "low pressure" drip of saline to keep the line open and confirm its ongoing viability PROCESS CHANGE: We will use the "low pressure" process in all future cases, and will amend our policy directive accordingly.
- Effective Delivery of Drugs: The current process has involved staff observation of the viability of the IV line, and that process should continue.

I believe that the recommendations and implementation of process changes will lessen the probabilities of the reoccurrence of such an issue in future executions. This review was focused strictly and solely on the cause of the problem in the Joseph Clark execution. Our objective was to determine refinements, and our goal is to implement those refinements, thereby reducing probabilities of future occurrences.

Please let me know if you would like any additional information or clarification. I plan to implement the recommendations immediately so they can be in place before the next scheduled execution which is set for July 12, 2006.

Execution Procedures

Process Review

Introduction and Charge

Following the execution of Joseph Lewis Clark #183-984, Governor Taft asked Director Terry Collins to review the execution procedures due to the unprecedented length of time necessary for the execution process. During the previous 20 executions, the process was carried out and concluded within one half hour of commencement. Clark's was not concluded until approximately ninety minutes after it was begun. During the process of carrying out Clark's execution, staff found it difficult to start and maintain the intravenous lines that would carry the lethal drugs, and those difficulties accounted for the delay in concluding the execution. Director Collins requested a meeting with counsel from the office of the Attomey General, the Warden of SOCF and two members of DRC's in-house legal staff to discuss the design of the process and the manner of carrying out the procedures.

The first meeting was convened on May 15, 2006 and the purpose of the meeting was described and agreed as a process review, an effort to identify ways that the process and procedures could be improved. It was the consensus of the group that inserting and maintaining the intravenous lines was the single procedure that presented the staff with difficulty. No other issue or procedure was identified as a source of operational concern.

Clark's Execution

Clark was received at the Southern Ohio Correctional Facility the day before his execution, as would normally be the case. His medical file was reviewed and he was visually examined by a nurse on the day of arrival to assess his health and to detect any potential difficulties with the intravenous insertion. The persons who insert the needles are trained medical professionals who are legally qualified to start intravenous lines in patients. No physician participates in the insertion of the needles, the delivery of the medication, or in any way other than the pronouncement of death.

On the morning of the execution, the process commences when the needles are inserted in the prisoner's arms. This is done while the inmate is in the holding cell, prior to his entrance into the execution chamber. Attached to the needles are small vials containing heparin, an anti-coagulant to prevent the blood from clotting at the intravenous site. Typically, two "heparin locks" are inserted, one into each arm, prior to the inmate's entry into the chamber. The drugs are always delivered to just one needle

site, but previous executions had always started two, with one to function as a back-up location in the event of some difficulty.

In Clark's case, one needle site was established, checked and found to be viable by flushing saline through the needle into the vein. The other site proved more difficult; the team members did not find and establish a second site within a number of minutes, and at some point, the decision was made to proceed with what appeared to be a single, viable site. The establishment of intravenous lines is more difficult for some individuals than others, as occurs in delivering medical care in the community.

The process of delivering the chemicals was initiated, but it soon became apparent to the team that the intravenous insertion was compromised, and the process was interrupted. The team members searched for another viable intravenous site. Finding and establishing an effective intravenous site proved to be difficult and time-consuming, but eventually it was accomplished. Once a new intravenous site was established, the process was re-commenced and concluded without further delay or interruption.

Recommendations

DRC officials and counsel agreed that the procedures for inserting and maintaining the intravenous lines should be the proper focus of the discussion. A number of suggestions for improvement were made and agreed upon. This report was prepared as a result of the meeting, listing each issue and the suggested, corresponding improvement.

<u>Time Pressures</u> Those persons involved in performing the execution are acutely aware of the profound significance of their roles and the attention focused upon them. There is a natural desire on the part of everyone involved to want the process to move smoothly toward the mandated conclusion, and this can be translated into a desire that it be performed quickly. The pressure to insert the needles quickly can contribute to the difficulty of that particular task.

Therefore, it is recommended that the administration relieve the staff of this pressure. The administration should recognize that the condemned prisoner may not always enter the death chamber at precisely 10:00 am. If the insertion of the needles requires more time that should not be considered cause for concern. If those responsible need to pause in their duty to discuss alternatives, this may well be an appropriate response. There should be no effort to hurry this stage of the process.

<u>Prior Evaluation</u> Whether or not Clark's difficult veins could have been "diagnosed" in advance is a matter of speculation. The establishment of an intravenous line is more difficult with some persons than others, and it is believed that such occurrences happen normally in the delivery of health care in the community.

Nevertheless, every possible step should be taken to anticipate and plan for foreseeable difficulties. The condemned prisoner should be thoroughly evaluated on the day of arrival at the institution, which should include a hands-on evaluation to the extent possible, and a review of the medical file as has occurred previously. Potential problems and alternatives should be discussed.

Two Intravenous Sites Clark's execution was begun with a single intravenous site established. However, it became necessary to interrupt the process to search for a second intravenous site. The fact of this interruption caused concern for the witnesses and the administration, and it almost certainly increased the level of difficulty for those persons responsible for finding a new vein.

In future executions, every effort should be made to establish intravenous lines in two sites. If the search for a second intravenous site causes delay in commencing the process, this should be viewed as a necessary consequence in order to avoid a startand-stop scenario.

Low Pressure Flow The viability of the intravenous line was checked with a highpressure injection of saline prior to entering the chamber. This is not the only alternative, however, as Maryland's procedure calls for the establishment of a lowpressure saline drip to keep the line open and confirm its ongoing viability.

It is recommended that future executions utilize a low-pressure drip to keep the line open and verify viability. The drip can be started in the holding cell and continued in the chamber. The lethal medications will be injected by syringe into the line at high pressure, and the low-pressure drip will continue between syringes. This will assist staff in monitoring the effectiveness of the delivery of the drugs into the blood stream.

The utilization of a low-pressure saline drip will eliminate the necessity of a saline syringe between chemicals. The policy should be changed to eliminate the use of and reference to three syringes of saline solution in a high-pressure flush between chemical doses.

Effective Delivery of Drugs The warden and other team members will observe the inmate's arms and check for signs of IV incontinence during the entire time that the drugs are being administered to the inmate.

CONTINGENCY PLANNING MEETING HELD JULY 19, 2006 REGARDING FERGUSON EXECUTION SCHEDULED FOR THESDAY, AUGUST 8, 2006

> Notification Issues Regarding Media

- PIT Team member assignments and Media Packets must be submitted to the Incident Commander PRIOR to the day of the scheduled execution.
- Any media-related issues (i.e., unauthorized media requesting entrance into the institution, media without credentials) must go through the PIO, not the Incident Commander.
- PIT Team members are to be in place in A-Building by 6:00 a.m. in order to process media, etc.
- Andres and Larry should have something prepared for the media in case the inmate recants.

> Inspection of Veins

 Assessment of the inmate's veins by medical staff must be documented on the timeline the night before and the day of the scheduled execution to show they have taken place.

> "Morning Of" Issues

- The assigned maintenance staff member (generally conducting communication checks must enter the death house via T1 to avoid traffic ducing visitation.
- Escorts for immate's witnesses need to be in place in A-Building so they can be processed and into the institution by 6:30 a.m. Upon arrival, they need to check-in with the Command Center, obtain their radios, and he in A-Building by 6:00 a.m. in order to begin visitation on time.
- of sight of the inmate. He will be there for the team only.
- In the future, the spiritual advisor needs to have a cut off time on visiting with the inmate (8:45).

> "Night Before" Issues

 If given the opportunity, team members should assess the inmate's arms in the event the immate is uncooperative the "morning of," Try to push liquids (water or caffeine free soda)

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Medical Team Entering Cell

- o Disposal boxes and safety needles will be used.
- o A spit sock will be available
- Restraints chain cuffs to be used and the inmate will be suffed to the side of the bed. Legirous will also be used. (Note: Practice at future training sessions)
- o There is concern with the immate attempting to get syringes and sticking team members. (Note: Practice at future training sessions)

> Inmate Resistance

- o If the inmate resists he may be restrained in the cell and IV's inserted there.
- o' Is he changing his mind since he's a volunteer?
- If force is used to insert heparin locks and he refuses to be escorted to the chamber, we need to ask if he wants to continue.

> If Inmate Recants Once Drugs are Being Administered

- If the inmate recants, the witnesses (both inmate and victims) and the media need to be briefed.
- o The curtain needs to be closed immediately.
- Medical needs to assess inmate. Once the light is on it becomes a medical issue.
- The Warden needs to know how we can accurately determine how much thiopental sodium is in his system. This will be assessed during this next practice.
- If we send him out, two team members will go in the squad with the inmate and two team members will be in a chase vehicle.

> "Worse Case Seenario"

- 45 seconds after signal is given and the immate recants just before he is auconscious it could be a lethal dose (will research). 80cc's once the flush is started (before 2nd syringe).
- o is first responder
- o Coroner legally and morally has to respond?
- o Nurse and physician on standby in Infirmary
- o are obligated to respond
- o Have crash bag in death house

> If Inpate Recants Immediately Following Last Statement

- o Curtains will be closed
- o Witnesses will be escorted out of death house
- o IV's and heparin locks will be removed
- o Release team will enter chamber
- o Inmate will be placed back in the cell
- We have an obligation until the death warrant expires (at midnight) just in case he would change his mind. The AG's office may possibly have the death warrant restinded, but the execution team and those involved will stay until a decision is reached.

> Additional Issues

- If the inmate recants at any given time, Andrea will go to the Director for a statement and the Warden will brief the witnesses and the media.
- Funeral Director: after the process is complete, storemain at CC1 and will escort the funeral director from the premises.
- If the immate changes his mind before getting to the chamber, he will be turned around and excerted back to the cell, the curtain will be pulled and the Warden will brief witnesses.
- o If the heparin locks are in and the inmate is escorted into the chamber, but he doesn't recant and pulls out the heparin locks, he is to be asked if he's stopping the process. If not, he is to be strapped on the bed and restrained.

> Future Training

o Wednesday, July 26th and Wednesday, August 2nd

MEMORANDUM

DATE: February 18, 1998

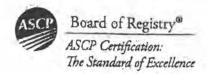
TO: Warden Steven Huffman

FROM:

RE: LETHAL INJECTION GUIDELINES

- Pharmacist will pick up needed medication from designated source and store
 in locked box in the safe (PAVULON must be kept refigerated in a locked box)
 in the pharmacy two weeks prior to execution date.
- On the day of execution, the locked box will be delivered in person to the warden by the pharmacist at the designated time. The warden will have control of the medication until the time of the execution.
- Following UNIVERSAL PRECAUTIONS the designated individual will start one IV in each arm of 500 cc NORMAL SALINE with large bore needle to run at TKO.
- The inmate will be prepared on the gurney by the appropriate team member prior to initiating the lethal injection process.
- 5. Drugs shall be administered in the following sequence:
 - A. SODIUM PENTATHOL 2GM in normal saline concentration
 25mg/cc (total 80cc)
 - B. FLUSH WITH 20CC NORMAL SALINE.
 - C. PAVULON 100MG TOTAL in normal saline concentration 1mg/cc (total 100cc). HOLD another 50MG as STANDBY.
 - D. FLUSH WITH 20CC NORMAL SALINE.
 - E. POTASSIUM CHLORIDE 100MEQ TOTAL in normal saline concentration 2meq/cc (total 50cc). HOLD another 50MEQ as STANDBY.
 - F. FLUSH WITH 20CC NORMAL SALINE.

MEDICAL CERTIFICATION



2100 West Harrison Street Chicago, Illinois 60612-3798 T 312.738.1336 F 312.738.5808

Certificate of Authenticity

Primary Source Reliance

January 19, 2006

To Whom It May Concern:

Please be advised that the American Society for Clinical Pathology has entered into a formal agency agreement with Credentials Inc. of Northfield, Illinois to perform written verifications of awarded certificates from our Institution. Credentials Inc. shall respond to all inquiries for verification of certificates awarded, on behalf of the American Society for Clinical Pathology. Credentials Inc. has been granted the authority to respond to all such requests from interested Third Parties on our behalf. The American Society for Clinical Pathology warrants that the results of the inquiries delivered by Credentials Inc., acting as our agent, are based on our records. Credentials Inc. should be considered as a primary source provider for verification of certificates awarded for the American Society for Clinical Pathology, just as if the information had been provided directly by our office.

Should you have any questions or concerns with this Certification of Authenticity, please contact the undersigned.

Name of Institution: American Society for Clinical Pathology Board of Registry

City, State:

Chicago, Illinois

Name,

Geraldine Piskorski

Signature:

Director, Certification Activities

Date:

Title:

January 19, 2006



Astring Successfully Julfilled The Aequitements Is Aereby Certified As A Afranbed

certification tass established in 1983 by the Consortium of Indiana Medical Pahoratory Aducators



Verification Form/Certificate of Continuing Education

NAME: : ADDRESS: CITY, STATE, ZIP:

Attended 14 hours of "Comprehensive Intravenous Therapy for Nurses" on and , 2007 at , OH. The segments attended included the following objectives:

Objectives:

- 1. Identify the terms used and practices of infection control relevant to TV therapy.
- Discuss the anatomical and physiologic considerations when initiating and maintaining IV therapy
- Outline and demonstrate the five steps involved in precannulation in IV therapy including the behaviors indicative of individual and family support during the procedure.
- Verbalize and demonstrate the five steps in cannulation of a vein when initiating IV therapy.
- Outline and demonstrate the five steps involved in postcannulation in IV therapy including the implementation of individual teaching.
- Outline and demonstrate the five steps involved in postcannulation in IV therapy including the implementation of individual teaching.
- Discuss the causes, assessment and management of nine complications associated with IV therapy and the associated terms.
- Evaluate INS guidelines and selected institutional policies in relationship to RN and LPN
 practice.
- Discuss the causes, assessment and management of six systemic complications related to the administration of IV fluids.
- Demonstrated the venipuncture procedure, documentation of IV therapy and use of accessory
 equipment in individuals receiving IV therapy.

This certificate documents the objectives covered during the educational sessions. It does not award official continuing education hours as defined by the Ohio Nurses Association (OBN-001-91), an accredited approver by the American Nurse Credentialing Center's Commission on Accreditation.

Program Coordinator

Educational

EMPROPHET MEDICAL SERVICES

EMS Certification Information



Select Query Type * Certification No (SSN S

Search

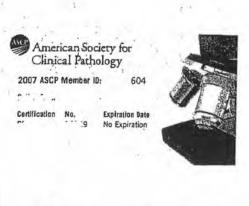
Reset

Certification Verification now shows 'Pending' in the certification status. If you go to 'Certification Verification' on the website you may see that there is a certification listed as pending on your record. This simply means that you have recently submitted an application to our office to renew your present certification. Since your present card is still 'active', the new card can not take effect until expiration of your current certification. The word 'Pending' simply means this certification is pending the expiration of your current certification. This is to confirm to each applicant and your employer that we have received and processed your application for renewal.

No. Certification Title
Intermediate
Level I Firefighter

Expiration Date /21/2009

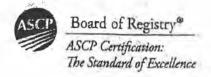
Server Date & Time: 12/3/2007 2:13:01 PM



American Society for Clinical Pathology

33 West Menroe, Suite 1600 Chicago, IL 60603-5617 www.ascp.org

Custamer Services 1,800,267,2727 (option 2) Outside U.S.: 312,541,4890 Fax: 312,541,4472 Iwlo Carep.org



2100 West Harrison Street Chicago, Illinois 60612-3798 T 312.788.1396 F 312.788.5808 www.arcp.org

Certificate of Authenticity

Primary Source Reliance

January 19, 2006

To Whom It May Concern:

Please be advised that the American Society for Clinical Pathology has entered into a formal agency agreement with Credentials Inc. of Northfield, Illinois to perform written verifications of awarded certificates from our Institution. Credentials Inc. shall respond to all inquiries for verification of certificates awarded, on behalf of the American Society for Clinical Pathology. Credentials Inc. has been granted the authority to respond to all such requests from interested. Third Parties on our behalf. The American Society for Clinical Pathology warrants that the results of the inquiries delivered by Credentials Inc. acting as our agent, are based on our records. Credentials Inc. should be considered as a primary source provider for verification of certificates awarded for the American Society for Clinical Pathology, just as if the information had been provided directly by our office.

Should you have any questions or concerns with this Certification of Authenticity, please contact the undersigned.

Name of Institution: American Society for Clinical Pathology Board of Registry

City, State:

Chicago, Illinois

Name.

Geraldine Piskorski

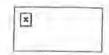
Title:

Signature:

Director, Certification Activities

Date:

January 19, 2006



EMS Certification Information



Select Query Type C Certification No @ SSN



Certification Verification now shows 'Pending' in the certification status. If you go to 'Certification Verification' on the website you may see that there is a certification listed as pending on your record. This simply means that you have recently submitted an application to our office to renew your present certification. Since your present card is still 'active', the new card can not take effect until expiration of your current certification. The word 'Pending' simply means this certification is pending the expiration of your current certification. This is to confirm to each applicant and your employer that we have received and processed your application for renewal.

Certification No.:

No.

Certification Title

Intermediate

Expiration Date 06/14/2009

Server Date & Time: 11/8/2007 9:59:05 AM

https://www.dps.state.oh.us/ems/cert.asp

Select Query Type Certification No

EMERGENCY MEDICAL SERVICES

EMS Certification Information



Certification Verification now shows 'Pending' in the certification status	
If you go to 'Certification Verification' on the website you may see that	
there is a centification listed as pending on your record. This simply	
means that you have recently submitted an application to our office to rene	V
your present certification. Since your present card is still lactive, the	

new card can not take effect until expiration of your current certification.

The word Pending simply means this certification is pending the expiration of your current certification. This is to confirm to each applicant and your employer that we have received and processed your application for renewal.

Server Date & Time: 12/4/2007 4:15:23 PM

TRAINING



SOUTHERN OHIO CORRECTIONAL FACILITY P.O. Box 45699 Lucasville, Ohio 45699-0001 740-259-5544

Ted Strickland, Governor

www.drc.state.oh.us

Terry J. Collins, Director

TO:

All Concerned

FROM:

DATE:

David L. Newsome, Deputy Warden of Special Services Oam &

September 27, 2007

SUBJECT:

EXECUTION TEAM TRAINING

MANDATORY Execution Team Training has been scheduled for the below dates:

Thursday, October 4, 2007 Wednesday, October 10, 2007

Training will take place in the Officers' Dining Room from 08:00am until 12:00pm. If there are any questions please contact

DLN/cb DISTRIBUTION:



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Ted Strickland, Governor

www.drc.state.oh.us

Terry J. Collins, Director

TO:

All Concerned

FROM:

David L. Newsome, Deputy Warden of Special Services

Down & Temor

DATE:

June 4, 2007

SUBJECT:

EXECUTION TEAM TRAINING

MANDATORY Execution Team Training has been scheduled for the below dates:

Wednesday, June 20th Wednesday, June 20th Wednesday, June 27th Tuesday, July 3rd

Training will take place in the Officers' Dining Room from 08:00am until 12:00pm. If there are any questions please contact

CONFIDENTIAL

DLN/cb. DISTRIBUTION:



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Bob Taft, Governor

www.drc.state.oh.us

Terry J. Collins, Director

TO:

All Concerned

FROM:

David L. Newsome, Deputy Warden of Special Services (1) 1 0

DATE:

September 11, 2006

SUBJECT:

EXECUTION TEAM TRAINING

REVISED

MANDATORY Execution Team Training has been scheduled for the below dates:

Thursday, September 28, 2006 Tuesday, October 3, 2006 Wednesday, October 11, 2006 *Revised* Tuesday, October 17, 2006

Training will take place in the Officers' Dining Room from 08:00am until 12:00pm. If there are any questions please contact [

CONFIDENTIAL

DLN/cb

DISTRIBUTION:

Voorhies, E. (Warden)

Cadogan, A. (Administration)

Morgan, D. (D. W. Ops.)



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Bob Taft, Governor

www.drc.state.oh.us

Terry J. Collins, Director

TO:

All Concerned

FROM:

David L. Newsome, Deputy Warden of Special Services One LA

DATE:

August 28, 2006

SUBJECT:

EXECUTION TEAM TRAINING

REVISED

MANDATORY Execution Team Training has been scheduled for the below dates:

Thursday, September 28, 2006 Tuesday, October 3, 2006 Tuesday, October 10, 2006 Tuesday, October 17, 2006

Training will take place in the **Officers' Dining Room** from 08:00am until 12:00pm. If there are any questions please contact

CONFIDENTIAL

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DISTRIBUTION:

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Cadogan, A. (Administration)

Morgan, D. (D. W. Ops.)



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Bob Taft, Governor

www.drc.state.oh.us

Terry J. Collins, Director

TO:

All Concerned

FROM:

David L. Newsome, Deputy Warden of Special Services $\mathcal{O}_{\mathbf{a}}$

DATE:

August 24, 2006

SUBJECT:

EXECUTION TEAM TRAINING

MANDATORY Execution Team Training has been scheduled for the below dates:

Tuesday, September 12, 2006 Tuesday, September 19, 2006 Thursday, September 28, 2006 Tuesday, October 3, 2006

Training will take place in the Officers' Dining Room from 08:00am until 12:00pm. If there are any questions please contact

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DISTRIBUTION:

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Bob Taft, Governor

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Reginald A. Wilkinson, Director

TO:

All Concerned

FROM:

Donald Morgan, Acting Deputy Warden of Operations &

DATE:

March 9, 2005

SUBJECT:

EXECUTION TEAM TRAINING

MANDATORY Execution Team Training has been scheduled for the below dates:

Wednesday, April 5, 2006 Wednesday, April 12, 2006 Wednesday, April 19, 2006 Friday, April 28, 2006

Tuesday, May 2, 2006 (Execution Date for I/M Clark #A183-984)

Training will take place in the Officers' Dining Room from 08:00am until 12:00pm. If there are any questions please contact

DM/bl

DISTRIBUTION:

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3ob Taft, Governor

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Reginald A. Wilkinson, Director

ro:

FROM:

Donald Morgan, Acting Deputy Warden of Operations

DATE:

June B, 2006

All Concerned

SUBJECT:

EXECUTION TEAM TRAINING

MANDATORY Execution Team Training has been scheduled for the below dates:

Tuesday, June 13, 3006 Thursday, June 22, 2006 Wednesday, June 28, 2006 Wednesday, July 5, 2006 Wednesday, July 26, 2006 Wednesday, August 2, 2006



Wednesday, July 12, 2006 (Execution Date for I/M Barton #A457-297) Wednesday, July 19, 2006 (Execution Date for I/M Spirko #A171-433) Tuesday, August 8, 2006 (Execution Date for I/M Ferguson #A456-727)

Fraining will take place in the Officers' Dining Room from 08:00am until 12:00pm. If there are any questions lease contact

эм/ы

DISTRIBUTION:

/oorhies, E. (Warden)
³rice, Dirk (Special Services)
³adogan, A. (Administration)



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Reginald A. Wikinson, Director

TO:

All Concerned

FROM:

Donald Morgan, Acting Deputy Warden of Operations

DATE:

June 8, 2006

SUBJECT:

EXECUTION TEAM TRAINING

MANDATORY Execution Team Training has been scheduled for the below dates:

Tuesday, June 13, 3006 Thursday, June 22, 2006 Wednesday, June 28, 2006 Wednesday, July 5, 2006 Wednesday, July 26, 2006 Wednesday, August 2, 2006

Wednesday, July 12, 2006 (Execution Date for I/M Barton #A457-297) Wednesday, July 19, 2006 (Execution Date for I/M Spirko #A171-433) Tuesday, August 8, 2006 (Execution Date for I/M Ferguson #A456-727)

raining will take place in the Officers' Dining Room from 08:00am until 12:00pm. If there are any questions lease contact (...

M/bl

ISTRIBUTION:

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Bob Taft, Governor

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Reginald A. Wilkinson, Director

TO:

All Concerned

FROM:

Donald Morgan, Acting Deputy Warden of Operations

DATE:

May 17, 2006

SUBJECT:

EXECUTION TEAM TRAINING

MANDATORY Execution Team Training has been scheduled for the below dates:

Wednesday, May 24, 2006

Training will take place in the Officers' Dining Room from 08:00am until 12:00pm. If there are any questions please contact :

DM/bl

DISTRIBUTION:

Voorhies, E. (Warden) Price, Dirk (Special Services) Cadogan, A. (Administration)



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Reginald A. Wilkinson, Director

TO:

All Concerned

FROM:

Donald Morgan, Acting Deputy Warden of Operations

DATE:

June 8, 2006

SUBJECT:

EXECUTION TEAM TRAINING

MANDATORY Execution Team Training has been scheduled for the below dates:

Tuesday, June 13, 3006 Thursday, June 22, 2006 Wednesday, June 28, 2006 Wednesday, July 5, 2006 Wednesday, July 26, 2006 Wednesday, August 2, 2006

Wednesday, July 12, 2006 (Execution Date for I/M Barton #A457-297) Wednesday, July 19, 2006 (Execution Date for I/M Spirko #A171-433) Tuesday, August 8, 2006 (Execution Date for I/M Ferguson #A456-727)

Training will take place in the Officers' Dining Room from 08:00am until 12:00pm. If there are any questions please contact

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Bob Taft, Governor

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Terry J. Collins, Director

TO:

All Concerned

FROM:

David L. Newsome, Deputy Warden of Special Services and 1

DATE:

December 13, 2006

SUBJECT:

EXECUTION TEAM TRAINING

MANDATORY Execution Team Training has been scheduled for the below dates:

Wednesday, December 27, 2006 Wednesday, January 03, 2007 Wednesday, January 10, 2007 Tuesday, January 16, 2007 Wednesday, January 31, 2006 Wednesday, February 07, 2006

Training will take place in the Officers' Dining Room from 08:00am until 12:00pm. If there are any questions please contact

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DISTRIBUTION:

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Bob Taft, Governor

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Terry J. Collins, Director

TO:

All Concerned

FROM:

David L. Newsome, Deputy Warden of Special Services O.

DATE:

November 3, 2006

SUBJECT:

EXECUTION TEAM TRAINING

MANDATORY Execution Team Training has been scheduled for the below dates:

Wednesday, November 8, 2006 Wednesday, November 15, 2006 Wednesday, November 22, 2006 Wednesday, November 29, 2006

Training will take place in the Officers' Dining Room from 08:00am until 12:00pm. If there are any questions please contact

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DISTRIBUTION:

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Morgan, D. (D. W. Ops.)

Cadogan, A. (Administration)



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740-259-5544

Ted Strickland, Governor

www.drc.state.oh.us

Terry J. Collins, Director

TO:

All Concerned

FROM:

David L. Newsome, Acting Deputy Warden of Special Services

DATE:

January 10, 2007

SUBJECT:

EXECUTION TEAM TRAINING

****REVISED****

MANDATORY Execution Team Training has been scheduled for the below dates:

Tuesday, January 16; 2007 Wednesday, January 31, 2007 Wednesday, February 07, 2007 Tuesday, February 20, 2007

Training will take place in the Officers' Dining Room from 08:00am until 12:00pm. If there are any questions please contact

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DISTRIBUTION:

Cadogan, A. (Administration)



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Bob Taft, Governor

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Reginald A. Wilkinson, Director

TO:

All Concerned

FROM:

David L. Newsome, Deputy Warden of Operations

DATE:

December 19, 2005

SUBJECT:

EXECUTION TEAM TRAINING

MANDATORY Execution Team Training has been rescheduled for the below dates:

Wednesday, December 28, 2005 Wednesday, January 4, 2005 Wednesday, January 11, 2005 Tuesday, January 17, 2005

Training will take -'ace in the Officers' Dining Room from 08:00am until 12:00pm. If there are any questions please contact . . .

DLN/bl

DISTRIBUTION:

Voorhies, E. (Warden) Dillon, S. (Special Services) Cadogan, A. (Administration)



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Bob Taft, Governor

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Reginald A. Wilkinson, Director

TO:

All Concerned

FROM:

David L. Newsome, Deputy Warden of Operations Vary

DATE:

December 19, 2005

SUBJECT:

EXECUTION TEAM TRAINING

MANDATORY Execution Team Training has been rescheduled for the below dates:

Wednesday, December 28, 2005 Wednesday, January 4, 2005 Wednesday, January 11, 2005 Tuesday, January 17, 2005

Training will take place in the Officers' Dining Room from 08:00am until 12:00pm. If there are any questions please contact



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Bob Taft, Governor

www.drc.state.oh.us

Reginald A. Wilkinson, Director

TO:

All Concerned

FROM:

David L. Newsome, Deputy Warden of Operations

DATE:

October 31, 2005

SUBJECT:

EXECUTION TEAM TRAINING

MANDATORY Execution Team Training has been rescheduled for the below dates:

Wednesday, November 02, 2005 Tuesday, November 08, 2005 Tuesday, November 15, 2005 Wednesday, November 23, 2005

Training will be held on November 15th, in the event that clemency is granted regarding the scheduled execution involving Inmate Spirko.

Training will take place in the Officers' Dining Room from 08:00am until 12:00pm. If there are any questions please contact

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Bob Teft, Governor

www.drc.state.oh.us

Reginald A. Wilkinson, Director

TO:

All Concerned

FROM:

David L. Newsome, Deputy Warden of Operations

DATE:

October 31, 2005

SUBJECT:

EXECUTION TEAM TRAINING

MANDATORY Execution Team Training has been rescheduled for the below dates:

Wednesday, November 02, 2005 Tuesday, November 08, 2005 Tuesday, November 15, 2005 Wednesday, November 23, 2005

Training will be held on November 15th, in the event that clemency is granted regarding the scheduled execution involving inmate Spirko.

Training will take place in the Officers' Dining Room from 08:00am until 12:00pm. If there are any questions please contact (

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Bob Taft, Governor

www.drc.state.oh.us

Reginald A. Wilkinson, Director

TO:

FROM:

David L. Newsome, Deputy Warden of Operations

DATE:

August 30, 2005

All Concerned

SUBJECT:

EXECUTION TEAM TRAINING- UPDATED SCHEDULE

MANDATORY Execution Team Training has been rescheduled for the below dates:

Wednesday, August 24, 2005 Wednesday, August 31, 2005 Wednesday, September 07, 2005 Tuesday, September 13, 2005**

Training will take place in the Officers' Dining Room from 08:00am until 12:00pm. If there are any questions please contact

DLN/cb

DISTRIBUTION:

Voorhies, E. (Warden) Dillon, S. (Special Services) Cadogan, A. (Administration)



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Bob Taft, Governor

www.drc.state.oh.us

Reginald A. Wilkinson, Director

TO:

All Concerned

FROM:

David L. Newsome, Deputy Warden of Operations

DATE:

July 25, 2005

SUBJECT:

EXECUTION TEAM TRAINING- UPDATED SCHEDULE

MANDATORY Execution Team Training has been rescheduled for the below dates:

Wednesday, August 24, 2005 Wednesday, August 31, 2005 Wednesday, September 07, 2005 Tuesday, September 13, 2005**

Training will take place in the Officers' Dining Room from 08:00am until 12:00pm. If there are any questions please contact '

DLN/cb

DISTRIBUTION:

Voorhies, E. (Warden) Dillon, S. (Special Services)
Cadogan A (Administration)



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Bob Taft, Governor

www.drc.state.oh.us

Reginald A. Wilkinson, Director

TO:

All Concerned

FROM:

David L. Newsome, Deputy Warden of Operations

Dand & Newson

DATE:

May 31, 2005

SUBJECT:

EXECUTION TEAM TRAINING

Please adjust your schedule to attend MANDATORY Execution Team Training in the Officers' Dining Room on the below-listed dates from 08:00am until 12:00pm:

Wednesday, August 24, 2005 Wednesday, August 31, 2005 Wednesday, September 07, 2005 Wednesday, September 14, 2005

If there are any questions please contact

DLN/cb

DISTRIBUTION:

Voorhies, E. (Warden) Dillon, S. (Special Services) Cadogan, A. (Administration)



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Bob Taft, Governor

www.drc.state.oh.us

Reginald A. Wilkinson, Director

TO:

All Concerned

FROM:

David L. Newsome, Deputy Warden of Operations

DATE:

January 11, 2005

SUBJECT:

EXECUTION TEAM TRAINING

Please adjust your schedule to attend MANDATORY Execution Team Training In the Officers' Dining Room on the below-listed dates from 08;00am until 12:00pm;

Thursday, February 10, 2005 Thursday, February 17, 2005 Thursday, February 24, 2005 Thursday, March 03, 2005

If there are any questions please contact

DLN/cb

DISTRIBUTION:

∀Havliand, J. (Warden)
 ✓Dillon, S. (Special Services)
 ✓Cadogan, A. (Administration)



SOUTHERN OHIO CORRECTIONAL FACILITY P.O. Box 45699 Lucasville, Ohio 45899-0001 740-259-5544

Bob Taft, Governor

www.drc.state.ch.us

Reginald A. Wilkinson, Director

TO:

All Concerned

FROM:

David L. Newsome, Deputy Warden of Operations

DATE:

August 24, 2004

SUBJECT:

EXECUTION TEAM TRAINING

Please adjust your schedule to attend MANDATORY Execution Team Training in the Officers' Dining Room on the below-listed dates from 08:00am until 12:00pm;

Monday, September 13, 2004 Monday, September 20, 2004 Thursday, September 30, 2004 Thursday, October 07, 2004

If there are any questions please contact.

CONFIDENTIAL

DLN/cb

DISTRIBUTION:

Haviland, J. (Warden) Dillon, S. (Special Services) Cadogan, A. (Administration)



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Bob Taft, Governor

www.drc.state.oh.us

Reginald A. Wilkinson, Director

TO:

All Concerned

FROM:

David L. Newsome, Deputy Warden of Operations Cond

DATE:

June 9, 2004

SUBJECT:

EXECUTION TEAM TRAINING

Please adjust your schedule to attend MANDATORY Execution Team Training in the Small Training Room on the below-listed dates from 08:00am until 12:00pm:

Monday, June 21, 2004 Wednesday, June 30, 2004 Wednesday, July 07, 2004

If there are any questions please contact

CONEDENTA.

DISTRIBUTION:

Haviland, J. (Warden) Dillon, S. (Special Services) Cadogan, A. (Administration)



SOUTHERN OHIO CORRECTIONAL FACILITY P.O. Box 45699 Lucasville, Ohio 45699-0001 740-259-5544

Bob Taft, Governor-

www.drc.state.oh.us

Reginald A. Wilkinson, Director

TO:

All Concerned

FROM:

David L. Newsome, Deputy Warden of Operations

DATE:

May 20, 2004

SUBJECT:

EXECUTION TEAM TRAINING

Please adjust your schedule to attend MANDATORY Execution Team Training in the Officer's Dining Room on the below-listed dates from 08:00am until 12:00pm:

Friday, May 28, 2004 Friday, June 04, 2004

If there are any questions please contact

CONFIDENTIAL

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Bob Taft, Governor.

www.drc.state.oh.us

Reginald A. Wilkinson, Director

TO:

All Concerned

FROM:

David L. Newsome, Deputy Warden of Operations

DATE:

April 1, 2004

SUBJECT:

EXECUTION TEAM TRAINING

Please adjust your schedule to attend MANDATORY Execution Team Training in the Officer's Dining Room on the below-listed dates from 08:00am until 12:00pm:

Friday, April 09, 2004 Tuesday, April 13, 2004 Friday, April 23, 2004

If there are any questions please contact

COALEDE ATA

DISTRIBUTION:

Haviland, J. (Warden) Dillon, S. (Special Services) Cadogan A (Administration)



SOUTHERN OHIO CORRECTIONAL FACILITY P.O. Box 45699 Lucasville, Ohio 45699-0001 740-259-5544

Bob Taft, Governor

www.drc.state,oh.us

Reginald A. Wilkinson, Director

TO:

All Concerned

FROM:

David L. Newsome, Deputy Warden of Operations

DATE:

February 18, 2004

SUBJECT:

EXECUTION TEAM TRAINING

REVISED

Please adjust your schedule to attend MANDATORY Execution Team Training in the Officer's Dining Room on the below-listed dates from 08:00am until 12:00pm:

Friday, March 5, 2004 Thursday, March 11, 2004 Wednesday, March 17, 2004 Friday, March 26, 2004

If there are any questions please contact

CONFIDENTIAL

DLN/cb

DISTRIBUTION:

Haviland, J. (Warden) Dillon, S. (Special Services) Cadogan, A. (Administration)



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Bob Taft, Governor

www.drc.state.oh.us

Reginald A. Wilkinson, Director

TO:

All Concerned

FROM:

David L. Newsome, Deputy Warden of Operations Oan & Alexander

DATE:

February 18, 2004

SUBJECT:

EXECUTION TEAM TRAINING

REVISED

Please adjust your schedule to attend MANDATORY Execution Team Training in the Officer's Dining Room on the below-listed dates from 08:00am until 12:00pm:

Friday, March 5, 2004 Thursday, March 11, 2004 Friday, March 17, 2004 Friday, March 26, 2004

If there are any questions please contact

CONEDENTAL

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DISTRIBUTION:

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Bob Taft, Governor

www.drc.state.oh.us

Reginald A. Wilkinson, Director

TO:

All Concerned

FROM:

David L. Newsome, Deputy Warden of Operations DLN C

DATE:

February 11, 2004

SUBJECT:

EXECUTION TEAM TRAINING

Please adjust your schedule to attend MANDATORY Execution Team Training in the Officer's Dining Room on the below-listed dates from 08:00am until 12:00pm;

Friday, March 5, 2004 Thursday, March 11, 2004 Friday, March 19, 2004 Friday, March 26, 2004

If there are any questions please contact

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DISTRIBUTION:

Haviland, J. (Warden) Dillon, S. (Special Services) Dadogan, A. (Administration)



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Bob Taft, Governor

www.drc.state.oh.us

Reginald A. Wilkinson, Director

TO:

All Concerned

FROM:

David L. Newsome, Deputy Warden of Operations

DATE:

May 23, 2003

SUBJECT:

EXECUTION TEAM ACTIVITY

Please adjust your schedule to attend MANDATORY Execution Team Training in the Officer's Dining Room on Friday, June 6, 2003, from 08:00am until 12:00pm

-00

f there are any questions please contact .

David L. Newsome

Deputy Warden of Operations

)LN/dkj

ISTRIBUTION:

aviland, J. (Warden) Illon, S. (Special Services) adogan, A. (Administration)



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Bob Taft, Governor,

www.drc.state.oh.us

Reginald A. Wilkinson, Director

TO:

All Concerned

FROM:

David L. Newsome, Deputy Warden of Operations

DATE:

May 23, 2003

SUBJECT:

EXECUTION TEAM ACTIVITY

Please adjust your schedule to attend MANDATORY Execution Team Training in the Officer's Dining Room on Friday, June 6, 2003, from 08:00am until 12:00pm

If there are any questions please contact

David L. Newsome

Deputy Warden of Operations

DLN/dkj

DISTRIBUTION:

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Bob Taft, Governor-

www.drc.state.oh.us

Reginald A. Wilkinson, Director

TO:

All Concerned

FROM:

David L. Newsome, Deputy Warden of Operations

DATE:

December 2, 2003

SUBJECT:

EXECUTION TEAM ACTIVITY

Please adjust your schedule to attend MANDATORY Execution Team Training in the Officer's Dining Room on the below-listed dates from 08:00am until 12:00pm:

Friday, December 12, 2003 Friday, December 19, 2003 Monday, December 29, 2003

If there are any questions please contact

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DLN/dkj

DISTRIBUTION:

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Bob Taft, Governor

www.drc.state.oh.us

Reginald A. Wilkinson, Director

TO:

All Concerned

FROM:

David L. Newsome, Deputy Warden of Operations

DATE:

October 23, 2003

SUBJECT:

EXECUTION TEAM ACTIVITY

Please adjust your schedule to attend MANDATORY Execution Team Training in the Officer's Dining Room on Friday, October 31, 2003, from 08:00am until 12:00pm. If there are any questions please contact

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DLN/dkj

DISTRIBUTION:

Haviland, J. (Warden) Dillon, S. (Special Services) Cadogan, A. (Administration)



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Bob Taft, Governor

www.drc.state.oh.us

Reginald A. Wilkinson, Director

TO:

All Concerned

FROM:

David L. Newsome, Deputy Warden of Operations

DATE:

October 23, 2003

SUBJECT:

EXECUTION TEAM ACTIVITY

Please adjust your schedule to attend MANDATORY Execution Team Training in the Officer's Dining Room on Friday, October 31, 2003, from 08:00am until 12:00pm. If there are any questions please contact

DLN/dkj

DISTRIBUTION:

-lavilland, J. (Warden) Dillon, S. (Special Services) Cadogan, A. (Administration)



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Bob Taft, Governor

www.drc.state.oh.us

Reginald A. Wilkinson, Director

TO:

ALL CONCERNED

FROM:

David L. Newsome, Deputy Warden of Operations.

DATE:

April B, 2003

SUBJECT:

EXECUTION TEAM ACTIVITY



Please adjust your schedule to attend MANDATORY Execution Team Training on Friday, April 18, 2003, everyone should report the Officer's Dining Room (ODR) beginning at 8:00 a.m. on that date. Training will be held from 8:00 a.m. to 12:00 p.m.

Note - This scheduled training is in addition to those outlined in previous memo dated March, 18, 2003.

If there are any questions please contact

at extension

SOUTHERN OHIO CORRECTIONAL FACILITY.

David L. Newsome Deputy Warden of Operations

DLN/cb

James S. Haviland, Warden

Anthony Cadogan, DWA

Stephen T. Dillon, DWSS

SOUTHERN OHIO CORRECTIONAL FACILITY P.O. Box 45699 Lucasville, Ohio 45699-0001 740-259-5544 Extension 3431

Bob Tafl, Governor

www.drc.state.oh.us

Reginald A. Wilkinson, Director

TO:

ALL CONCERNED

FROM:

David L. Newsome, Deputy Warden of Operations

DATE:

December 20, 2002

SUBJECT:

MANDATORY EXECUTION TEAM TRAINING

Please adjust your schedule to attend <u>MANDATORY</u> Execution Team Training on Tuesday, January 7, 2003, Tuesday, January 28, 2003, and Thursday, February 6, 2003, everyone should report to the Officer's Dining Room (ODR) beginning at 8:00 a.m. on the above dates Training will be held from 8:00 a.m. to 12:00 p.m.

SOUTHERN OHIO CORRECTIONAL FACILITY,

David L. Newsome Deputy Warden of Operations

DLN/cb

cc: James S. Haviland, Warden Anthony Cadogan, DWA

Stephen T. Dillon, DWSS



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Bob Taft, Governor

www.drc.state.oh.us

Reginald A. Wilkinson, Director

TO:

ALL CONCERNED

FROM:

David L. Newsome, Deputy Warden of Operations

DATE:

March 18, 2003

SUBJECT:

EXECUTION TEAM ACTIVITY



Due to receiving several execution dates over the next few months we have scheduled practices as well as added the execution dates to help with scheduling conflicts. All practices will be held form 8:00 a.m. to 12:00 p.m. and will begin in the ODR. We will discuss and pass on information pertaining to each execution as we receive it. As usual your cooperation is greatly appreciated.

Scheduled	Practices
-----------	-----------

Thursday, March 20, 2003 Tuesday, April 1, 2003 Thursday, April 10, 2003 Friday, April 25, 2003 Friday, May 9, 2003 Friday, May 30, 2003 Friday, June 13, 2003 Scheduled Executions

April 16, 2003 Williams #176-628
April 29, 2003 Brewer #187-234
May 14, 2003 Campbell #211-228
June 18, 2003 Martin #174-878

SOUTHERN OHIO CORRECTIONAL FACILITY,

David L. Newsome Deputy Warden of Operations

DLN/cb

CC.

James S. Haviland, Warden Anthony Cadogan, DWA Stephen T. Dillon, DWSS



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Bob Taft, Governor

www.drc.state.oh.us

Reginald A. Wilkinson, Director

DATE:

March 28, 2003

TO:

All Concerned

FROM:

David L. Newsome, Deputy Warden of Operations

SUBJECT:

Change in Training Schedule

Training scheduled for Thursday, April 10, 2003 has been cancelled and rescheduled for **Wednesday**, **April 9, 2003**. Everyone should report to the ODR at 8:00 a.m. on the scheduled date.

Note – All remaining practices will be conducted as scheduled according to memo dated 3/18/03 or until otherwise notified by this office.

David L. Newsome

Deputy Warden of Operations

DLN/cb

XC;

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Bob Taft, Governor

www.drc.state.oh.us

Reginald A. Wilkinson, Director

TO:

ALL CONCERNED

FROM:

David L. Newsome, Deputy Warden of Operations

DATE:

February 24, 2003

SUBJECT:

MANDATORY EXECUTION TEAM TRAINING

Please adjust your schedule to attend <u>MANDATORY</u> Execution Team Training on the below dates, everyone should report to the Officer's Dining Room (ODR) beginning at 8:00 a.m. on these dates. Training will be held from 8:00 a.m. to 12:00 p.m.

Tuesday, March 4, 2003 Tuesday, March 11, 2003 Thursday, March 20, 2003 Tuesday, April 1, 2003 Thursday, April 10, 2003

SOUTHERN OHIO CORRECTIONAL FACILITY,

David L. Newsome
Deputy Warden of Operations

DLN/cb

cc: James S. Haviland, Warden Anthony Cadogan, DWA Stephen T. Dillon, DWSS

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Bob Taft, Governor

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Reginald A. Wilkinson, Director

TO:

ALL CONCERNED

FROM:

David L. Newsome, Deputy Warden of Operations

DATE:

July 19, 2002

SUBJECT:

MANDATORY EXECUTION TEAM TRAINING

Please adjust your schedule to attend <u>MANDATORY</u> Execution Team Training on Wednesday, August 6, 2002 and Wednesday, August 20, 2002, everyone should report to the Officer's Dining Room (ODR) beginning at 8:00 a.m. on the above dates. Training will be held from 8:00 a.m. to 12:00 p.m.

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SOUTHERN OHIO CORRECTIONAL FACILITY,

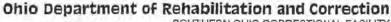
David L. Newsome Deputy Warden of Operations

DLN/cab

cc: James S. Haviland, Warden

Anthony Cadogan, DWA

Stephen T. Dillon, DWSS



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Bob Taft, Governor

www.drc.state.oh.us

Reginald A. Wilkinson, Director

TO:

ALL CONCERNED

FROM:

David L. Newsome, Deputy Warden of Operations

DATE:

July 30; 2002

SUBJECT:

MANDATORY EXECUTION TEAM TRAINING

Please adjust your schedule to attend MANDATORY Execution Team Training on Tuesday, August 6, 2002 and Tuesday, August 20, 2002, everyone should report to the Officer's Dining Room (ODR) beginning at 8:00 a.m. on the above dates. Training will be held from 8:00 a.m. to 12:00 p.m.

SOUTHERN OHIO CORRECTIONAL FACILITY,

David L. Newsome Deputy Warden of Operations

DLN/cab -

CC:

James S. Haviland, Warden Anthony Cadogan, DWA

Stanhan T Dillon DIMES



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Bob Tafi, Governor

www.drc.state.oh.us

Reginald A. Wilkinson, Director

TO:

ALL CONCERNED

FROM:

David L. Newsome, Deputy Warden of Operations

DATE:

June 12, 2002

SUBJECT

MANDATORY EXECUTION TEAM TRAINING

Please adjust your schedule to attend <u>MANDATORY</u> Execution Team Training on Wednesday, July 10, 2002, everyone should report to the Visiting Room beginning at 8:00 a.m. Training will be from 8:00 a.m. to 12:00 p.m. on this date.

SOUTHERN OHIO CORRECTIONAL FACILITY,

David L. Newsome Deputy Warden of Operations

DLN/cab

cc: James S. Haviland, Warden Anthony Cadogan, DWA Stephen T. Dillon, DWSS



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Bob Taft, Governor

www.drc.state.oh.us

Reginald A. Wilkinson, Director

TO:

ALL CONCERNED

FROM:

David L. Newsome, Deputy Warden of Operations

DATE:

March 20, 2002

SUBJECT:

MANDATORY EXECUTION TEAM TRAINING

Please adjust your schedule to attend <u>MANDATORY</u> Execution Team Training on the below listed dates, everyone should report to the <u>Large Training Room</u> beginning at 8:00 a.m. to 12:00 p.m.

- Thursday, April 4th
- Tuesday, April 9th
- Tuesday, April 16th
- Tuesday, April 23rd

SOUTHERN OHIO CORRECTIONAL FACILITY,

David L. Newsome Deputy Warden of Operations

DLN/cab

cc: James S. Haviland, Warden

Anthony Cadogan, DWA

Stephen T. Dillon, DWSS



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Bob Taft, Governor

www.drc.state.oh.us

Reginald A. Wilkinson, Director

TO:

ALL CONCERNED

FROM:

David L. Newsome, Deputy Warden of Operations

DATE:

March 11, 2002

SUBJECT:

MANDATORY EXECUTION TEAM TRAINING

Please adjust your schedule to attend <u>MANDATORY</u> Execution Team Training on Friday, March 15, 2002, everyone should report to the **Small Training Room** beginning at 8:00 a.m. to 12:00 p.m.

SOUTHERN OHIO CORRECTIONAL FACILITY.

David L. Newsome Deputy Warden of Operations

DLN/cab

CC:

James S. Havlland, Warden Anthony Cadogan, DWA

Stephen T. Dillon, DWSS



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Bob Taft, Governor

www.drc.state.oh.us

Reginald A. Wilkinson, Director

TO:

ALL CONCERNED

DEI/ICED***

FROM:

David L. Newsome, Deputy Warden of Operations

DATE:

January 23, 2002

SUBJECT:

MANDATORY EXECUTION TEAM TRAINING

Please adjust your schedule to attend <u>MANDATORY</u> Execution Team Training for the dates listed below. Everyone should report to the <u>Large Training Room</u> on these dates between the hours of 8:00 a.m. to 12:00 p.m.

- February 1, 2002
- February 6, 2002
- February 14, 2002

SOUTHERN OHIO CORRECTIONAL FACILITY,

David L. Newsome Deputy Warden of Operations

DLN/cab

cc: James S. Haviland, Warden Anthony Cadogan, DWA Stephen T. Dillon, DWSS



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Bob Tail, Governor

www.drc.state.oh.us

Reginald A. Wilkinson, Director

TO

ALL CONCERNED

FROM:

David L. Newsome, Deputy Warden of Operations

DATE:

January 17, 2002

SUBJECT:

MANDATORY EXECUTION TEAM TRAINING

Please adjust your schedule to attend <u>MANDATORY</u> Execution Team Training for the dates listed below. Everyone should report to the <u>Large Training Room</u> on these dates between the hours of 8:00 a.m. to 12:00 p.m.

- January 29, 2002
- February 6, 2002
- February 14, 2002

SOUTHERN OHIO CORRECTIONAL FACILITY,

David L. Newsome Deputy Warden of Operations

DLN/cab

Anthony Cadogan, DWA

Stephen T. Dillon, DWSS



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Bob Taft, Governor

www.drc.state.oh.us

Reginald A. Wilkinson, Director

TO:

ALL CONCERNED

****REVISED***

FROM:

David L. Newsome, Deputy Warden of Operations

DATE:

December 12, 2001

SUBJECT:

MANDATORY EXECUTION TEAM TRAINING

Please adjust your schedule to attend <u>MANDATORY</u> Execution Team Training Wednesday, December 19, 2001 from 8:00 a.m. to 12:00 p.m. Everyone should report to the Visiting room at this time.

SOUTHERN OHIO CORRECTIONAL FACILITY,

David L. Newsome Deputy Warden of Operations

DLN/cab

DC.

Harold E. Carter, Warden Anthony Cadogan, DWA

Stephen T. Dillon, DWSS

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Bob Taft, Governor

www.drc.state.oh.us

Reginald A. Wilkinson, Director

TO:

ALL CONCERNED

FROM:

David L. Newsome, Deputy Warden of Operations

DATE:

December 10, 2001

SUBJECT:

MANDATORY EXECUTION TEAM TRAINING

Please adjust your schedule to attend <u>MANDATORY</u> Execution Team Training Tuesday, December 18, 2001 from 8:00 a.m. to 12:00 p.m. Everyone should report to the small training room at this time.

SOUTHERN OHIO CORRECTIONAL FACILITY,

David L. Newsome

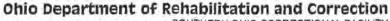
Deputy Warden of Operations

DLN/cab

-. CC:

Harold E. Carter, Warden Anthony Cadogan, DWA

Stephen T. Dillon, DWSS



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Bob Taft, Governor

www.drc.state.oh.us

Reginald A. Wilkinson, Director

TO:

ALL CONCERNED

FROM:

David L. Newsome, Deputy Warden of Operations

DATE:

September 6, 2001

SUBJECT:

MANDATORY EXECUTION TEAM TRAINING

Please adjust your schedule to attend <u>MANDATORY</u> Execution Team Training Friday, September 7, 2001 from 12:00 p.m. to 4:00 p.m. Everyone should report to the small training room at this time.

SOUTHERN OHIO CORRECTIONAL FACILITY,

David L. Newsome

Deputy Warden of Operations

DLN/cab

cc: Harold E. Carter, Warden

Anthony Cadogan, DWA

Stephen T. Dillon, DWSS

SOUTHERN OHIO CORRECTIONAL FACILITY Jack G. Williams, Deputy Warden of Operations P.O. Box 45699 Lucasville, Ohio 45699-0001 740-259-5544 Extension 3431

Bob Taft, Governor

www.drc.state.oh.us

Reginald A. Wilkinson, Director

TO:

ALL CONCERNED

FROM:

David L. Newsome, Deputy Warden of Operations

DATE:

June 8, 2001

SUBJECT:

MANDATORY EXECUTION TEAM TRAINING

Please adjust your schedule to attend <u>MANDATORY</u> Execution Team Training Tuesday, June 12, 2001 from 8:00 a.m. to 12:00 p.m. Everyone should report to the small training room at this time.

SOUTHERN OHIO CORRECTIONAL FACILITY,

David L. Newsome

Deputy Warden of Operations

DLN

CC:

Harold E. Carter, Warden Anthony Cadogan, DWA Stephen T. Dillon, DWSS

SOUTHERN OHIO CORRECTIONAL FACILITY Jack G. Williams, Deputy Warden of Operations P.O. Box 45699 Lucasville, Ohio 45699-0001 740-259-5544 Extension 3431

Bob Taft, Governor

www.drc.state.oh.us

Reginald A. Wilkinson, Director

TO:

ALL CONCERNED

FROM:

David L. Newsome, Deputy Warden of Operations

DATE:

August 14, 2001

SUBJECT:

MANDATORY EXECUTION TEAM TRAINING

Please adjust your schedule to attend <u>MANDATORY</u> Execution Team Training Tuesday, August 21, 2001 from 8:00 a.m. to 12:00 p.m. Everyone should report to the small training room at this time.

SOUTHERN OHIO CORRECTIONAL FACILITY,

David L. Newsome

Deputy Warden of Operations

DLN

CC:

Harold E. Carter, Warden Anthony Cadogan, DWA Stephen T. Dillon, DWSS

SOUTHERN OHIO CORRECTIONAL FACILITY Jack G. Williams, Deputy Warden of Operations P.O. Box 45699 Lucasville, Ohio 45699-0001 740-259-5544 Extension 3431

Bob Taft, Governor

ощо

www.drc.state.oh.us

Reginald A. Wilkinson, Director

TO:

ALL CONCERNED

FROM:

David L. Newsome, Deputy Warden of Operations

DATE:

August 29, 2001

SUBJECT:

MANDATORY EXECUTION TEAM TRAINING

Please adjust your schedule to attend <u>MANDATORY</u> Execution Team Training Wednesday, September 5, 2001 from 8:00 a.m. to 12:00 p.m. Everyone should report to the small training room at this time.

SOUTHERN OHIO CORRECTIONAL FACILITY,

David L. Newsome

Deputy Warden of Operations

DLN/cab

cc: Harold E. Carter, Warden Anthony Cadogan, DWA

Stephen T. Dillon, DWSS

SOUTHERN OHIO CORRECTIONAL FACILITY
Jack G. Williams, Deputy Warden of Operations
P.O. Box 45699
Lucasville, Ohio 45699-0001
740-259-5544 Extension 3431

Bob Taft, Governor

www.drc.state.oh.us

Reginald A. Wilkinson, Director

TO:

ALL CONCERNED

FROM:

David L. Newsome, Deputy Warden of Operations

DATE:

August 22, 2001

SUBJECT:

MANDATORY EXECUTION TEAM TRAINING

Please adjust your schedule to attend <u>MANDATORY</u> Execution Team Training Tuesday, August 28, 2001 from 8:00 a.m. to 12:00 p.m. Everyone should report to the small training room at this time.

SOUTHERN OHIO CORRECTIONAL FACILITY,

David L. Newsome

Deputy Warden of Operations

DLN

CC:

Harold E. Carter, Warden Anthony Cadogan, DWA

Stephen T. Dillon, DWSS



SOUTHERN OHIO CORRECTIONAL FACILITY P.O. Box 45699 Lucasville, Ohio 45699-0001 740-259-5544

3ob Taft, Governor

www.drc.state,oh.us

Reginald A. Wilkinson, Director

TO:

All Concerned

FROM:

David L. Newsome, Deputy Warden of Operations Don't A August

DATE:

December 30, 2003

SUBJECT:

EXECUTION TEAM ACTIVITY

Please adjust your schedule to attend MANDATORY Execution Team Training in the Officer's Dining Room on the below-listed dates from 08:00am until 12:00pm:

Monday, January 5, 2004 Friday, January 23, 2004 Friday, January 30, 2003

a are any questions please contact

CONFIDENTA

DLN/cb

DISTRIBUTION:

Havlland, J. (Warden) Dillon, S. (Special Services) Cadogan, A. (Administration)



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Bob Taft, Governor.

www.drc.state.oh.us

Reginald A. Wilkinson, Director

TO:

All Concerned

FROM:

Donald Morgan, Acting Deputy Warden of Operations

DATE:

March 9, 2005

SUBJECT:

EXECUTION TEAM TRAINING

MANDATORY Execution Team Training has been scheduled for the below dates:

Wednesday, April 5, 2006 Wednesday, April 12, 2006 Wednesday, April 19, 2006 Friday, April 28, 2006

Tuesday, May 2, 2006 (Execution Date for I/M Clark #A183-984)

Training will take place in the Officers' Dining Room from 08:00am until 12:00pm. If there are any questions please contact

DM/bl

DISTRIBUTION:

Voorhies, E. (Warden) Dillon, S. (Special Services) Cadogan, A. (Administration)



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lob Taft, Governor,

www.drc.state.oh.us

Reginald A. Wilkinson, Director

ro:

All Concerned

ROM:

Donald Morgan, Acting Deputy Warden of Operations

DATE:

January 10, 2005

SUBJECT:

EXECUTION TEAM TRAINING

MANDATORY Execution Team Training has been rescheduled for the below dates:

Tuesday, January 17, 2006 Wednesday, January 25, 2006 Tuesday, January 31, 2006

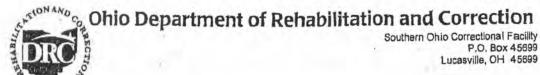
Tuesday, February 7, 2006 (Execution Date for I/M Benner #A190-672)

,... g will take place in the Officers' Dining Room from 08:00am until 12:00pm. If there are any questions please contact

DM/b!

DISTRIBUTION:

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Ted Strickland, Governor

www.drc.state.oh.us

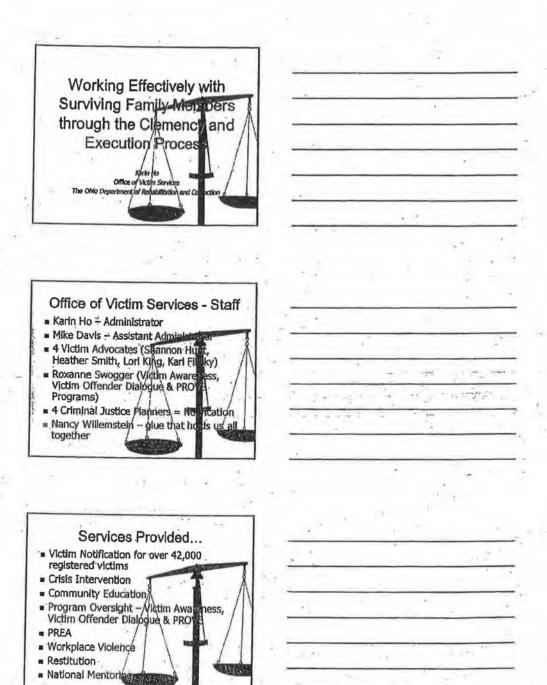
Terry Collins, Director

EXECUTION TEAM ADVANCED TRAINING

Date: 4.4.07 Time: 10:00 Am

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ite Male:		White Female:	Minority Female:	
alte Male: ining Officer: Instructor:		White Female:	Minority Female:	



When the process with the family begins? Contact is made with the surviving victim's family sometimes very sometimes very begins? Contact is made with the surviving victim's family sometimes very begins? Contact is made with the surviving victim's family sometimes very begins and the victim's family sometimes very begins and victim's family victim's family or or or the or or the or or of the victim's family to go over the process and what is to be expected in the months to ordine.

The Role of the Office of Victim Services during this process...

To the extent possible, we strive to a superfamily members make the defined by hearing and execution process "belrown"...trying to meet whatever meds they might have. We are absolutely to und by policy and law at times, but we will do our best to work together to see if there's anything we can do to accommodate all requests.

Partners... We partner with many people, including Local County Victim Assistance Programs Attorney General, Capital Crimes Unit and Crime Victim Services The Governor's Office Other Department of Corrections stuff Media Death Team Members...especially be Warden

The Clemency Hearing... There are 9 Parole Board Members, one of which is a victim representative. The Board is gathering information during the hearing and will then make a recommendation to the Governor. The clemency hearing is very similar althe trial process and is as much of alrollercoaler emotionally. The inmate's atterneys present first a stitnen/his family. They are often talking about mat a nice person he is, that he had a bad childle od, etc. and pleading for the Board to recommend sparing his life.

Clemency Hearing cont'd... Then there is a break Next the Prosecutor's Office and Attorney General staff present. All is at this point that hopefully any concerns or frestrations victims might have felt during the first half of the meeting will start to fade, betalls of the crimes and arguments about why the inmate should be executed as presented

0085

The second secon	
Clemency Hearing cont'd	The second secon
White the state of	
It is important that family members from the facts of the case so they are not song sed	
during the hearing. While most families are	
aware, we just mention in ust in case	
The day of the demency hearing can be a long day. Checking to see if there are any special	
dietary or medical needs/(are diabetts have a	
heart condition, etc) can be very more thant.	H .
a A t	
VIII	-
Clemency Hearing, cont'd	
After the Prosecutor and Attorney General's presentation, it is the victims form	-
opportunity to share with the Board allything	
you would like them to consider	
Because the facts of the dase have an ady been presented, the family's rice would be to let the know the devastating impact this has add in	
their lives and who their loved one was 1 Photos	11 7. 1
their lives and who their loved one w. Photos or other information (collage, ashe?;) are often be given to the Board and pass I on to	
the Governor's Office during this heading	
- Analysis	
	-
4	
	1 915
Clemency Hearing cont'd	
On the day of the hearing, the Board will announce exactly what day their	-
recommendation will be sent to the Givernor's A	
Office. As they leave our office, they rell our staff who can then call the family to be you	
know //\	
The Governor's final decision will not be announced until usually very close to the actual	
execution date. They want to be straintere is	The second secon
no additional information that might time in at the last minute that might impact the lecision	
and the state of t	

Prior to the Execution...

- w We need to have a complete list of any family members who will be coming to the all son on the day of the execution
- No later than 2 weeks prior to the excution, need to know who will be the actual innesses (these names are released to the me a per policy at this point)...but family members can change their minds if necessaly (even wist moments before the execution).

The Execution Process...

- According to law, the family members of the victim may designate up to writes. For the execution. We permit each family whon there are multiple death sentences to designate 3 each
- The execution takes place at the Souriern Ohio Correctional Facility in Lucasville
 We recommend traveling the hight of one and often meet for dinner to provide updates and answer any last minute questions

Execution Process cont'd...

- The morning of the execution, we made at a Highway Patrol Post office in the area

 We leave together in a prestigion prison bus for the institution, this is so the family does not have to park the cars, and walk around the prison grounds where media, protesters and others might approach them. Their cars remes safely at the Post during the entire process

0087

Execution Process cont'd... m photo identification Leave all illegal drugs and reapons a: We must know about any medication members might need to take into the In Ohio, a death warrant is good for In the event there are any delays, if the prison, they would want to have with them. family ostitution/ hours. edications with them

Execution Process cont'd...

- We permit family members to bri cigarettes into the Institution (alcough not typically allowed)
- Describe that they will be going grough security much like at an airport. Pressing as simply as possible or minimizing items in purses will greatly expedite that entrance process

Execution Process cont'd...

- = Everything we do during the execution has been 'practiced' weekly and is ver synchronized
 - . Command Center with members us
 - Attorney General Marc Dahn calls (when with him from each family)
 Director Collins, wayden and others me

 - Interest in talking to media?? (we will day as well)

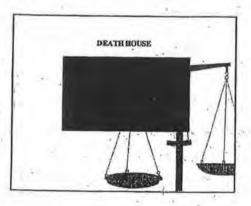
8800

Execution Process cont'd...

Those who are not witnessing will receive in waiting areas (within signit of each house)

rts at

- The execution process actually sapproximately 9:50
- The inmate may designate 3 with and there are 6 media witnesses
- The victim witnesses sit at the 'h



Execution Process cont'd ...

- The process begins after all witnesses are seated and television monitoral seated. It is witness room. The inmate will be seen laying on the bed in his cell and witnesses observe the IVs being inserted into his artis. This call take anywhere from just a few moments to 1/2 hour or longer...
- Next, the television monitors will go of and witnesses will see the inmate walk must be execution chamber in front of them and get on the table.

0089

Execution Process cont'd	· ·	
Medical and security staff strap big/haddown and then leave.	1	
Only the Warden and Captain will remain in the room with the inmate.	-	-
The warden will ask the inmate line/she would like to make a last statement and	1	1
then return the microphone or the hook on the wall	-	
4	+	
		1
Execution Process cont'd	- P	*
	-	
his point, the warden uses signals to initiate process. The warden will be to a coat etc. telling the team members to tagin ministering the medications	2 15	
this point, it will take only about iminutes implete the process? aptain will pull a curtain shut in wont of all itnesses as a physician checks for vital		WES THE TWO
glass is like a mirror, and the me la esses behind can see faces ((yi)	- Kit - I	***
esses behind can see faces (IVI)	, * 	
0.0	*	7
Carte Control	40.4	
ecution Process cont'd	-	*
e Major will open the curtain and the rider will announce the time of death.		
witnesses are immediately esserted out the building - starting with the media, / en the inmates witnesses, and hally the		
tim witnesses / \		
return to the waiting area with the of the family members		

Execution Process cont'd... The inmate's body momentarily will carried out of the death house, who did not witness often want watch this process. We will ask at this point if the faily would like to make a statement the media before leaving the prisons stey or not have to, but can) Let's talk about the families... Summary · Critical to prepare families for what to expect during the demoner and kecution Best compliment is when families said "It was almost as if I'd been before" ■ Crisis intervention + loss of contr . Safety & Security ■ Ventilation & Validation - Preparation and Predication

0091



0092

State of Ohio Execution Team Application

N	ame:	ERSONAL INFORMATION Date:	
		State Ohio Seniority Date:	
Cı	urrent Job Classification:	Shift/Hours:	19
Ci	urrent Job assignment:		
1.	Please briefly list your employmen	t history with the Department of Rehabilita	ation & Correction
)		
			F
2.	Please list any Certifications and E		
	× -	grant mining 325	
	1	10 10 (*)	
3.		actions in the last 12 months: Yes \(\square\)	10 🔲
			1
3,	P.		-
4.	Please list any special interests, skill	ls, or hobbies that you feel would benefit y	ou for this positio
		10.00	7.0
	The state of the s		

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VON CLARK DAVIS v. WARDEN CASE NO. 2:16-cv-00495 APPENDIX - Page 3418

HEALTH CARE TRAINING AIDS & EQUIPMENT

WARRANTY

Voru IV training Aids are guaranteed for one year from date of purchase against mechanical or manufacturing defects.

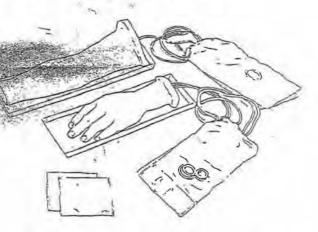
RETURN GOODS POLICY

Should it be necessary to return an item for any reason, contact our Customer Service Department to obtain a RETURN AUTHORIZATION NUMBER. Merchandise cannot be accepted without prior return authorization. Please refer to your invoice number when phoning in your request to return merchandise. If needed, a shipping carton and packing instructions will be sent to you to facilitate return of the item.

Should you have any questions or wish further information on any product we manufacture or distribute, call or write our Customer Service Department at:

IV TRAINING ARM AND HAND

INSTRUCTIONS FOR USE, CARE AND MAINTENANCE



SIMULAIDS, INC.

P.Ö. BOX 807, WOODSTOCK, NY 12498 TOLL FREE: (800) 431-4310 FAX: (914) 679-8996 SIMULAIDS, INC.

... Serving Emergency Life Support for over 30 years

VON CLARK DAVIS v. WARDEN CASE NO. 2:16-cv-00495 APPENDIX - Page 3419 The SIMUL-LIDS' IV TRAINING ARM AND HAND are designed to train personnel in starting IVs and venipuncture. The student can palpate the arm and hand which is made of a supple PVC material that replicates the texture and feel of human skin. When the vein is located and the needle inserted, blood may be drawn or fluid injected. Both the Arm and Hand are made to withstand repeated use.

1 our IV Training Arm and Hand Kit consists of the following components:

- Inner Arm and Hand Units filled w/Recycled Plastic Bits
- Hand Skin Installed
- · Arm Skin Installed
- Arm/Hand Vein Set Installed
- Reservoir Bags w/tubing (2)
- Blood Powder





HOW TO USE

- Dip connectors on reservoir tubes into water and connect reservoir tubes the silicone tubes of the simulated arm or hand. Make sure silicone tube is pushed up past the ribbed section of the connector to avoid leakage.
- 2. Fill reservoir bag with simulated blood or colored water.
- Elevate the filled reservoir bag and open the slide clamps of both reservoirs.
 Gravity will circulate the simulated blood through the venous network and into second reservoir bag.
- When elevated reservoir is empty, reverse with lower one now filled with fluid.

NOTE: Simulated blood which accumulates under the skin, in the veins or in reservoirs should be removed by washing in warm tap water after each use. Fill a reservoir with warm water and allow to circulate through venous network to wash out veins.

REPLACING IV SKINS AND VEINS

Tubing and Veins: To replace tubing in SIMULAIDS IV Arm or Hand,

- 1. Remove skin and loosen tubing that is glued into place.
- 2. Clip tubing, leaving about an inch (1") protruding from each hole.
- Insert one end of connector supplied into each piece of tubing that is left protruding from the IV unit.
- 4. Cut the new tubing to the correct length between connectors.
- 5. Slip new tubing onto connectors and give the tubing in place.
- 6. Allow to dry thoroughly before replacing skin.

Skins: To replace skins on SIMULAIDS IV Arm or Hand,

- 1. Remove the used skin from the Arm or Hand.
- 2. Sprinkle talcom powder from enclosed packet in the interior of new skin.
- Holding so that water cannot enter the inside, dip the skin into hot water (120°-180°F) for approximately 15-30 sec. This will make it easier to slip on and fit to inner Arm or Hand.
- 4. Shake out excess powder and slide the new skin over the Arm or Hand, pulling it into place.
- 5. Trim excess skin with scissors.

trem annabers for IV. Arm and Hand components are listed below:

	item No.		Description
	140		IV Training Arm and Hand
1	JA Tarana		(1 Arm Unit/1 Hand Unit)
	146	1	IV Training Arm
3	147R		"New IV Training Hand Right
	147L		Original IV Hand Left (Discontinued)
	141R	2	New IV Hand Skin
	141L	207	Original Hand Skin
Ť	142		IV Arm Skin
	143A	1 1-4	IV Arm Vein Set
	143H		IV Hand Vein Set
	144		IV Reservoir (1)
	225	31.17	Powder to make one gallon blood

The IV Arm and IV Hand may be returned to Simulaids for factory installation of skins and/or veins. Call for return authorization and prices prior to sending back to us for factory repair.

COURSE TITLE:	Intravenous Injec	ctions for Execution	Process	
LESSON TITLE:	Lethal Injection Proc	ess and Drug Utilization	on	
INSTRUCTOR(S):	_			
PREPARED BY:			DATE:	1/13/07
REVIEWED BY:			DATE:	
REVIEWED / REVISED BY:			DATE:	
REVIEWED/REVISED BY:			DATE:	
REVIEWED / REVISED BY:	6		DATE:	
SUGGESTED LENGTH/	30 - 45 min.	Number of I	Participants	: 20
Performance objectives should be setainable, realistic, time bound) It the end of this session the stude Familiarize execution team me medical process, including instand preparation of drugs.	nt will be able to: embers with the		ludent Perfo level should or 100% pro	rmance Objective be specified, suc

DRC 1767 (revised 11/06)

in a class room envi process & requireme			rs, the instructor will explain the	medic
		* * * #2		
	w.			

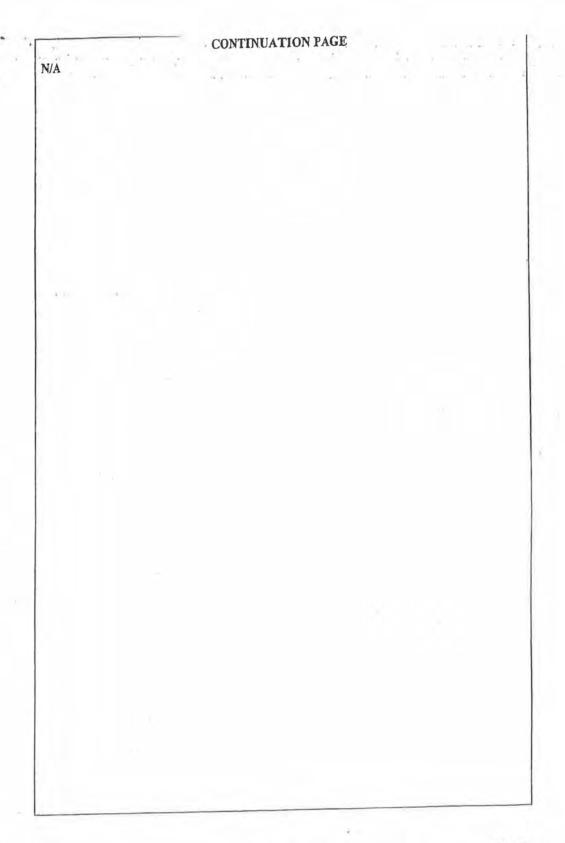
Equipment & supplies Needed

X	Flipchart & Stand - (Number)	Computer
	Chalkboard	PowerPoint Projector
A	Felt Tip Markers	Other: (specify)
	Masking Tape Rolls- (Number)	Practice arm for intravenous injections
	DVD Player	Flowchart for I/V Insertion Process
	Videotape Player	
	Video Camera	

Student Materials (Handouts)

Title *	# Needed	When Distributed
N/A		
		1
*It is expected you will secu	re copyright clearance unless other	wise indicated.

References
DRC Policy 01-COM-11, Executions
Practical Approaches to I.V. Starts, E. Adkins, RN, Intranvenous Specialist.



PAGE
NOTI

Overview of medical assessments upon arrival of inmate & rationale.

01-COM-I 1, 4-B

Observation of inmate (first 12 hours); key role of team members.

Anxiety, blood pressure, meds, things to do (by team members)

Explanation of process to the condemned inmate. Why we do it & details included.

Process for insertion of heparin locks.

Inserting main lines to heparin locks.

Three drug protocol: drugs utilized; amounts & concentrations prepared. Drug effects & interactions; including precautionary measures (saline flush, secondary signals).

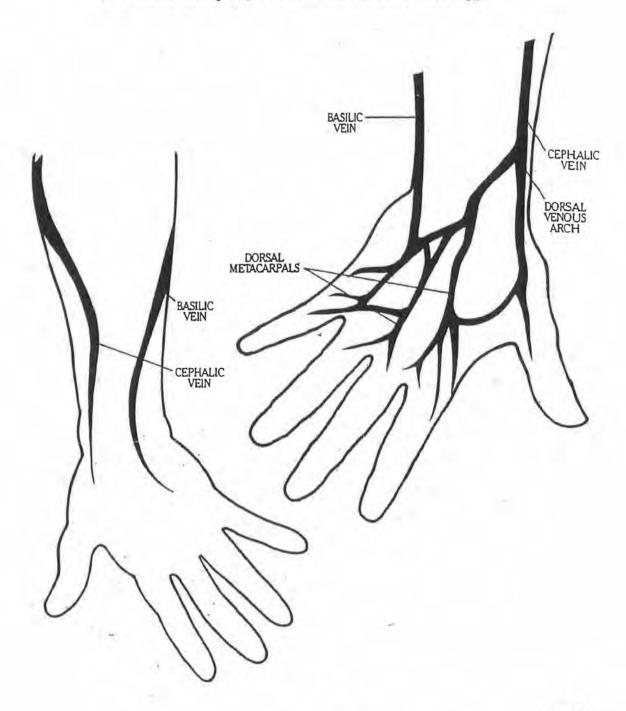
NOTES PRESENTATION GUIDE

Practical Approaches to I.V. Starts

Elsie Adkins, RN Intravenous Specialist

vein Selection.

When selecting a suitable vein for intravenous therapy, consider the following factors: location and condition of the vein, and purpose and duration of therapy.



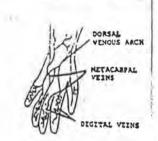
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PERIPHERAL IV INITIATION

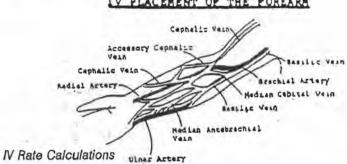
Most Common I.V. Catheter Applications.

18 Gauge green hub Patients undergoing surgery, receiving blood transfusions, or receiving large volumes of fluid. 20 Gauge pink hub Patients receiving large volumes of fluid, viscous fluids or blood (if a thin-wall catheter is used), patients having diagnostic procedures requiring rapid administration of contrast media. 22 Gauge olue hub Patients on long-term medication or fluid therapy, pediatric patients, or adults with small veins.

IV PLACEMENT IN THE HAND



IV PLACEMENT OF THE POREARM



Rate	Macrodrip (10 drops/ml)	Microset (60 drops/ml)
42 ml/hour	7 drops/min.	42 drops/min.
60 ml/hour	10 drops/min.	60 drops/min.
75 ml/hour	13 drops/min.	75 drops/min.
85 ml/hour	14 drops/min.	85 drops/min.
100 ml/hour	17 drops/min.	100 drops/min.
125 ml/hour	21 drops/min.	125 drops/min.
150 ml/hour	25 drops/min.	150 drops/min.
" 200 ml/hour	33 drops/min.	200 drops/min.

VENIPUNCTURE FOR HEPARIN LOCK OR CONTINUOUS IV

EQUIPMENT NEEDED:

IV tray (catheter, tourniquet, alcohol,tape, bandage)
IV Solution if ordered
Appropriate IV tubing
Sticker (for date, time, and initial on tubing)
IV pole
Disposable gloves
Parenteral Fluid Record/Documentation Record

	IMPLEMENTATION STEPS		RATIONALE
1.	Confirm physicians order on chart.		
2.	Explain procedure to patient.		*
3.	Assemble equipment		
4.	Time tape N bag.		
5,	Wash hands.	5.	Reduce transmission of microorganisms.
6.	Spike container with tubing and prime tubing.	6.	Large air bubbles can act as emboli.
7.	Assemble equipment and take to bedside.		
8.	Place bed in high position and position patient comfortably, explaining procedure, its purpose and what is expected of the patient.		
9,	Evaluate extremity for most appropriate site using no-dominate hand when possible.		4
10.	Keeping site distal on hand or forearm apply tourniquet 5 to 6 inches above insertion site.	10.	If scierosing or demage to vein occurs, proximal site of same vein is still usable. Avoid veins which are hard, lumpy, over a joint, or below an area of phiebits.
11.	If vein is not sufficiently dilated the following techniques may help raise vein. Tap vein lightly, place extremity in dependent position or if necessary remove tourniquet and apply moist heat for 10-20 minutes.	11.	Heat will help dilete vein for easier venous access,
12.	If a large amount of body hair-is present at needle insertion site, clip hair with scissors, DO NOT SHAVE.	12.	When shaving small abrasions and cuts can occur and result in and increased potential for infection at IV site.
13.	Place tourniquet 5-6 inches above insertion sits. Tourniquet should obstruct venous flow not arterial flow.	13.	Diminished arterial flow prevents venous filling.
14.	Apply disposable gloves.	14.	To maintain universal preceutions.
15.	Cleanse site in circular movements from the innermost aspect of the site to the outermost aspect using a moderate amount of friction with three alcohol swabs.	15.	Cleansing outward with a circular motion removes bacteria away from venipuncture sita.

16.	With thumb on non-dominant hand stretch skin taunt below puncture site to stabilize the vein.	16.	This enchors the vein and retracts the skin allowing for easier needle insertion.
17.	With the needle bevel up at a 30 degree angle puncture the skin surface the skin surface with a quick motion parallel to and directly in line with the vein.		÷
18.	When flashback of blood appears advance needle 1/4 inch further to establish the calheter tip in the vein.	18.	As the needle enters the vein, llashback of blood may occur before the catheter tip has also entered the vein. Premature withdrawal could result in peelback of the unsupported catheter Up. Therefore, do not use flashback as a signal to withdraw the needle.
19.	Pull stylet back 1/2 Inch to prevent puncture of the posterior veln well. Lift slightly upward and advance catheter into veln. NEVER REINSERT NEEDLE INTO CATHETER.	19.	Reinserting needle into catheter could sever the catheter.
20.	Release tourniquet, place alcohol swab under hub of catheter, withdraw needle and attach pm lock or administration setup to catheter hub as quickly as possible.		
21.	Turn on IV solution and regulate flow. Check site to be sure of good flow or if edema should occur discontinue IV and select another site.		*
22.	Using 1/2 Inch wide strip of tape adhesive side up, slide under hub of catheler and tape across. Second 1/2 inch of tape, tape across just above the hub. Use 1-2 more pieces of 2 inch tape to secure. Loop and secure tubing.		1941
23.	Mark dressing with pen noting date, size of catheter and your initials.		*
24.	Document starting time, date, site gauge of catheter used and initial assessment on documentation record.		+

ASSESSING IVS

Assess the IV every hour or more often as needed for the following:

Initial Assessment:

- Correct solution
- 2. Time solution hung
- Amount remaining in container
- 4. Amount already infused
- 5. Is it on time
- 6. Drip rate
- 7. Date IV tubing was changed
- 8. Is the tubing kinked, separated, or dependent?
- 9. Site appearance: erythema, induration, tenderness
- 10. Patient complaints/statements about IV
- 11. Is the IV bag or bottle time taped
- 12. Check expiration date on pharmacy prepared solutions
- 13. Site dressing- dry and intact, occlusive, marked with date and gauge

Assessment after initial inspection:

- Amount remaining in container
- Amount already infused
- Is it on time
- 4. Drip rate
- 5. Is the tubing kinked, separated, dependent
- Site appearance: erythema, induration, tenderness

Patient complaints/statements about IV

Special Notes:

If the amount remaining in the IV bag or bottle is less than a two hour supply on your final rounds, hang a new bag or bottle.

It is recommended that when there is 300cc remaining in the bag that you bring in the next solution and tubing (if needed). This can decrease the risk of getting air in the line or the needle clotting off if you don't get back to the room in time. (exception: KVO)

FACTORS AFFECTING IV FLOW RATE

	FACTORS	1	EFFECTS
1.	Position of extremity where IV catheter inserted.	1.	If site raised above heart level fluid will not infuse and blood will back up and clot in tubing.
2.	Empty bottle.	2.	No flow- blood may back up in tubing and clot off
3.	Temperature of solution.	3.	Cold solution- constricts vein and slows infusion, Warm solution- dilates vein and increases rate of infusion.
4:	Roller clamps and side clamps.	4.	May need to be adjusted. Open or close to adjust rate.
5.	Kinked tubing,	5.	Slows or stops Infusion.
6.	Micron filter.	6.	Mays slow rate if filter becomes clogged.
7.	Air in line.	7.	May slow or completely stop infusion. Need to aspirate eir.
8.	Distance of IV container from needle insertion site.	8.	The higher the container, the faster the infusion will flow. The IV solution should be at least three feet above the level of the heart.
9.	Needle position in valn.	9.	Flow may vary between being too fast or too slow if the needle tip is against the vain walf or in a moving joint area.
10,	Needle- sluggish or clotted.	10.	Decreased or no flow rate. NEVER IRRIGATES
11.	Leaking at insertion site.	11.	May increase flow rate, although the patient will not receive any solution. Site dressing will be wet.
12.	Solution in glass bottles.	12.	Need to use an integral elrway tubing and remove the rubber diaphragm from the bottle in order to obtain a flow rate.
13.	Emotional status of patient	13.	Anxiety may cause venous constriction and therefore, slow the flow rate. Sedation may cause venous ditatation and increase the flow rate.
14.	Early Infiltration.	14.	Rate may slow. If patient has poor skin turgor, rate may increase.
15.	Early phiebitis.	15.	Rate may slow.
16.	. Blood pressure.	16.	An increased blood pressure in the patient with CHF may make it more difficult to regulate. A decreased blood pressure may increase the flow rate.
17.	Viscosity of infusion solution.	17.	Thicker solutions (blood, lipids, etc.) will infuse slower than less viscous solutions.
18.	Needle size.	18.	The smaller the needle, the slower the IV will Infuse.

Hickman and Groshong Repairs

Wendy Ehman, RNC Susan Herrada, RN

Oncology Staff Nurses

REPAIR OF GROSHONG/HICKMAN CATHETER

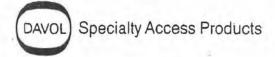
AGENDA

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- II. Connector repair procedure
 - a. Catheter size
 - b. Catheter color
- III. Repairing Connectors
 - a. Purpose
 - b. Equipment
 - C. Technique
- IV. Single Luman Catheter Repair
 - a. Equipment
 - b. Catheter length
 - c. Technique
- V. Double Luman Catheter Repair
 - a. Equipment
 - b. Catheter length
 - c. Technique

VI. Documentation

- a. Purpose of repair
- b. Catheter length prior to repair
- c. Date Time





GROSHONG™ C.V. CATHETER

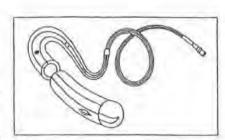
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	Fluid Leakage From Catheter Exit Site	

INTRODUCTION

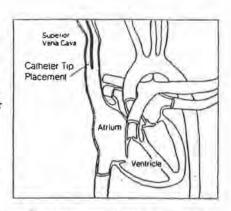
Description

The Groshong™ Central
Venous Catheter is a thinwalled, translucent silicone
rubber catheter with a radiopaque stripe, depth markings,
and a rounded, blunt tip that
incorporates the patented
three-position Groshong™
valve. The Groshong™ valve is
available in long-term, cuffed
catheters and shorter term,
non-cuffed acute care catheters, as well as in an implantable port.



Placement

The catheter is placed via one of the large central veins so that its tip lies in the superior vena cava above the right atrium. The long-term catheter is tunnelled subcutaneously for several inches to the desired exit site. The dacron cuff, attached to the long-term catheter, is positioned in the tunnel 3-5 cms above the skin exit site. The cuff assists in securing the catheter in place through ingrowth of fibrous

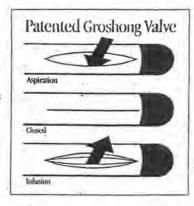


tissue and helps reduce the potential for infection caused by the migration of bacteria through the subcutaneous tunnel. The acute care catheter is not tunnelled.

Valve Function

The Groshong™ central venous catheters incorporate the patented, 3-position, pressure-sensitive Groshong™ valve. It is placed near the rounded, closed, radiopaque catheter tip and allows fluid infusion and blood aspiration. When not in use the valve design restricts blood backflow and air embolism by

remaining closed. The Groshong™ valve is designed to remain closed between -7 and 80 mm Hg. The normal central venous pressure range in the superior vena cava is 0 to 5 mm Hg. Pressure in the superior vena cava must exceed 80 mm Hg to force the valve inward and cause bleedback. Air cannot enter the venous system if the catheter is open unless the superior vena caval pressure drops below -7 mm Hg. Applying significant negative (vacuum) pressure will cause the valve to open inwards, allowing blood aspiration. Positive pressure into the catheter (gravity, pump, syringe) will open the valve outward, allowing fluid infusion.



When pressures return to normal values, the valve will close. The need for the anticoagulant effect of heparin is eliminated because the closed valve prevents blood from backing into the catheter tip and clotting. If the catheter is aspirated, pulling the valve inward, it must be flushed to allow the valve to return to its normal closed position.

The benefits provided by the Groshong™ valve; are:

- Patient safety due to reduced risk of air embolism or bleedback.
- Elimination of the need for heparin as an irrigant to maintain catheter patency.
- 3. Reduced need for eatheter clamping.
- Reduced need for flushing when the catheter is not in use (flushed every seven days with normal saline when not in use).

The multi-lumened Groshong[™] catheter valves are rotated and staggered, allowing the concurrent infusion of incompatible drugs. Each lumen of a multilumen catheter is treated separately for maintenance and irrigation purposes.



CATHETER IRRIGATION PROCEDURE

Purpose:

To maintain catheter patency,

Routine Maintenance (every 7 days; or after IV administration of TPN, IV fluids, or medications)

Supplies:

Isopropyl alcohol and/or povidone-iodine wipes

10 cc syringe with attached 20-21 gauge 1* needle filled with 5cc normal sali

Procedure:

- 1. Clean injection cap with alcohol and/or povidone-iodine wipe.
- Insert needle of syringe filled with 5 cc normal saline into injection cap.
- Inject saline, maintaining positive pressure on syringe plunger as last 1/2
 is infused and needle is withdrawn from injection cap. (Helps prevent a
 vacuum which can pull a small amount of blood into tip of catheter).

After Blood Aspiration for any reason, or when blood is observed in the catheter.

Supplies:

Isopropyl alcohol and/or povidone-iodine wipes

10cc syringe with attached 20-21 gauge 1" needle filled with IOcc normal sali

Procedure:

- Follow routine maintenance procedure, except use 10 cc flush vigorously to clear blood from catheter.
- If unable to flush all blood residue out of the injection cab, replace it afte blood sampling per Injection Cap Change procedure (per hospital policy

NOTE: If blood is aspirated prior to infusion of medications to check venou placement), catheter should be irrigated with 10 cc of normal saline prior to attaching medication syringe, or IV, or pump tubing. Failure to do so may resin an occluded catheter, which can lead to difficulty in aspirating in the future.

Prior to blood sampling when TPN infusing:

Procedure:

 Follow routine maintenance irrigation procedure, except use 20cc norn saline and flush vigorously to clear TPN from catheter.

References:

"Patient's Information Manual, Groshong/Cath-tech* CV Catheter -Long Term", Catheter Technology Corporation, Salt Lake City, Ut., 1988.

BLOOD WITHDRAWAL/ASPIRATION PROCEDURE

Purpose:

To obtain blood samples for laboratory evaluation, eliminating the need for peripheral venipunctures.

To verify venous placement prior to administration of hypertonic or vesicant solutions.

Hub-To-Huh Technique (syringe)

Supplies:

- 3 10 cc syringes
- 2 19-20 gauge 1" needles.

0,9% Sodium Chloride (normal saline).

Isopropyl alcohol wipes/povidone-iodine wipes

Blood specimen tubes.

Procedure:

- 1. Wash hands thoroughly.
- 2. Draw up 10 cc of normal saline in syringe and set aside.
- 3. Remove injection cap/LV. tubing from catheter hub.
- 4. Clean catheter hub with alcohol and/or povidone-iodine wipe.
- 5. Attach an empty 10 cc syringe to catheter hub.
- Pull back syringe plunger 1-2 cc, pausing for 2 seconds to allow cutheter valve to open and blood to come into catheter. Slowly continue to aspirate 5 cc of blood.
- Disconnect syringe and discard (saline in catheter dilutes specimen and may alter lab values).
- Attach an empty 10cc syringe and aspirate per step no. 6 to withdraw amount of blood needed for testing.
- 9. Disconnect syringe and attach saline-filled syringe.
- 10. Vigorously flush the catheter with 10 cc normal saline.
- Disconnect syringe and clean catheter bub with alcohol and/or povidone-iodine wine.
- Attach new injection cap per Injection Cap Change Procedure or attach sterile I.V. tubing to hub of catheter.

NOTE: If you encounter difficulties with blood withdrawal, see Troubleshooting Guide - Aspiration Difficulties.

celle Through Injection Cap (Vacutainer**)

tay use 10cc syringe with attached needle in place of Vacutainer^{FM})

applies:

icutamer¹⁶ sleeve and attached needle.

10cc syringes with attached 20-21 gauge 1" needle

2% Sodium Chloride (normal saline)

spropyl alcohol wipes/povidone-iodine wipes

ood specimen tubes

ocedure:

Wash hands thoroughly.

Draw up 10 cc of normal saline in syringe and set aside,

Clean injection cap with alcohol and/or povidone-iodine wipe.

Insert needle of 10 cc syringe into injection cap.

Pull back syringe plunger 1/2 cc, pausing for 2 seconds to allow catheter valve to open and blood to come into catheter. Slowly continue to aspirate 5 cc of blood

TH: A Vacutainer™ specimen tube may be used to withdraw the diseard uple, but be sure to use one with at least a 5 cc capacity.

Remove syringe from injection cap and discard.

Insert Vacutainer™ needle into the injection cap. Push blood specimen tube into Vacutainer™ sleeve so that needle pierces rubber stopper.

Blood needed for specimen will flow into specimen tube. Change tubes as needed for required tests.

Remoye Vacutainer'M needle and sleeve.

Insert needle of saline-filled syringe and vigorously flush the catheter with 10 ec of normal saline.

If unable to flush all of the blood residue out of the injection cap, attach a new sterile injection cap per Injection Cap Change Procedure (per hospital policy).

FIG. If you encounter difficulties with blood withdrawal, see Traubleshooting ide - Aspiration Difficulties

ferences:

egan, Marylou, & Snyder, Gale, "Groshong™ CV Catheters - Protocol For rsing Catre & Maintenance", Catheter Technology Corporation, Salt Lake City, February 1986.

INJECTION CAP CHANGE

Purpose:

To minimize potential for infection and overuse of injection cap.

Frequency

- Every seven days (about 18 needle insentions) or per hospital policy.
 - When the cap has been removed for any reason.
- Anytime the cap appears damaged, is leaking, blood is seen in the catheter without explanation, or blood residue is observed in the cap.
- · After blood withdrawal through the injection cap (per hospital policy).

Supplies:

New sterile injection cap.

Alcohol wipes

Tape

10 cc syringe with attached 20-21 gauge 1" needle filled with 5cc normal saline

Procedure:

- I. Wash hands.
- 2. Open injection cap package and prefill injection cap with normal saline.
- Hold the hub of the catheter below the level of the hear (prevents "manometer effect") and unscrew the old injection cap.
- Clean the outside of the catheter hub with an alcohol wipe and/or povidone-iodine wipe.
- Remove the tip protector from the new injection cap and twist it clockwise onto the catheter hub.
- Irrigate the catheter with 5 cc normal saline following the Catheter Irrigation Procedure.
- Tape the connection (per hospital policy).

References:

Keegan, Marylou & Snyder, Gale, "Groshong™ CV Catheters - Protocol For Nursing Care & Maintenance", Catheter Technology Corporation, Salt Lake City, Ut., February 1986.

DRESSING CHANGE PROCEDURE

urpose:

o prevent external introgenic infection of the central venous catheter.

requency

auze and tape dressings - M. W. F. and prn if soiled, damp, or loosened. ansparent dressings - every 7 days and prn if loosened.

OTE: If granulocyte count less than 200mm, you may wish to consider ranging the dressing daily.

auze and Tupe dressing

ong-term catheters; recommended for first 1-2 weeks after placement until the iff is healed in)

ipplies:

rile dressing kit which includes:

- · Isopropyl alcohol swabsticks or hydrogen peroxide swabsticks
- Povidone-iodine swabsticks
- Packet povidone-iodine ointment
- 2" x 2" split gauze
- 2" x .2" gauze

Protective dressing wipe or swabstick (optional)

- ·Isopropyl-alcohol wipe
- 1r. Sterile gloves (recommended if dressing is changed in the hospital)

ocedure:

Wash hands thoroughly,..

Carefully remove old dressing and discard. Avoid tugging on the catheter, or the use of scissors, or other sharp objects near the catheter.

Inspect catheter exit site for swelling, redness, or exudate. Notify physician if problem observed.

Wash hands thoroughly.

Put on sterile gloves.

Clean the catheter exit site with an alcohol or hydrogen peroxide swahstick, starting at the exit site and spiraling outward until a circle at least 3 inches in diameter has been prepped. Do not return to the catheter exit site with the same swahstick. Repeat with the remaining 2 swahsticks.

Clean the catheter exit site with a povidone-iodine swabstick, starting at the

exit site and spiraling outward until a circle at least 3 inches in diameter has been prepped. Do not return to the catheter exit site with the same swabstick. Repeat with the remaining 2 swabsticks.

- 8. Allow povidone-iodine to dry at least 2 minutes.
- Gently clean the outside of the catheter with the inside surface of an alcohol wipe, starting from the exit site to the catheter hub. Do not pull on the catheter.
- 10. Apply a small amount of povidone-iodine ointment to the catheter exit site.
- 11. Apply a split 2" x 2" gauze over the catheter exit site.
- 12. Top with a 2" x 2" gauze.
- 13. If a protective dressing wipe or swabstick is used, apply it to the skin to be taped around the periphery of the 2" x 2"'s and allow to dry completely.
- 14. Cover gauze and 1" of surrounding skin with tape.
- Loop catheter tubing and tape it securely to dressing or skin. (Prevents pulling on the catheter)

Transparent Dressing

Supplies:

- 3 Alcohol swabsticks or hydrogen-peroxide swabsticks
- 3 Povidone-iodine swahsticks
- 1 Packet povidone-iodine ointment (optional)
- 1 Transparent dressing
- 1 Isopropyl alcohol wipe
- 1 Pr. Sterile gloves (recommended If dressing is changed in the hospital)
- 1 2" x 2" or 4" x 4" sterile gauze

Procedure:

- 1. Wash hands thoroughly.
- Carefully remove old dressing and discard. Avoid tugging on the catheter, or the use of scissors, or other sharp objects near the catheter.
- Inspect catheter exit site for swelling, redness, or exudate. Notify physician if problem observed.
- 4. Wash hands thoroughly.
- 5. Put on sterile gloves.
- Clean the catheter exit site with an alcohol or hydrogen peroxide swahstick,

starting at the exit site and spiraling outward until a circle at least 3 inches in diameter has been prepped. Do not return to the cutheter exit site with the same swabstick. Repeat with the remaining 2 swabsticks.

Clean the catheter exit site with a povidone-iodine swabstick, starting at the exit site and spinding outward until a circle at least 3 inches in diameter has been prepped. Do not return to the catheter exit site with the same swabstick. Repeat with the remaining 2 swabsticks.

Allow povidone-iodine to dry at least 2 minutes.

Gently clean the outside of the catheter with the inside surface of an alcohol wipe, starting from the exit site to the catheter hub. Do not pull on the catheter.

Put the exit site with sterile gauze to remove any excess povidone-iodine.

Apply a small amount of povidone-lodine ointment to the catheter exit site toptional).

Applyable transparent dressing by centering it over the catheter exit site. Loop the catheter tubing and tape it securely to the skin. (Prevents pulling on the catheter).

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Vasquez, RM, Jarrard, MM, "Care of the Central Venous Cathererization Site: The Use of a Transparent Polyurethane Film", Journal of Parenteral & Enteral Nutrition, Vol. 8, No. 2, 1984, pp. 181-186.

PICC DRESSING CHANGE PROCEDURE

Purpose:

To prevent external jatrogenic infection of the central venous catheter.

Frequency

Every seven days and prn if loosened or damp.

Supplies:

Sterile dressing kit which includes:

- 3 Isopropyl alcohol swabsticks
- 3 Povidone-indine swahsticks
- 1 Packet povidone-iodine or antibiotic ointment
- 2 2" x 2" gauze
- 1 10 x 12 cm transparent dressing
- I Pr. Sterile gloves

Procedure:

- 1. Wash hands thoroughly.
- Carefully remove old dressing and discard. Avoid tugging on the catheter, or use of scissors, or other sharp objects near the catheter.
- Inspect the catheter exit site for swelling, redness, or exudate. Notify physician if problem observed.
- 4. Wash hands thoroughly.
- 5. Put on sterile gloves.
- 6. Clean the catheter exit site with an alcohol swabstick, starting at the exit site and spiraling outward until a circle at least 2 inches in diameter has been prepped. Do not return to the catheter exit site with the same swabstick. Repeat with the remaining 2 swabsticks.
- Clean the catheter exit site with a povidone-iodine swabstick, starting at the
 exit site and spiraling outward until a circle at least 2 inches in diameter has
 been prepped. Do not return to the catheter exit site with the same swabstick. Repeat with the remaining 2 swabsticks.
- 8. Allow povidone-iodine to dry at least 2 minutes.
- Apply a small amount of povidone-iodine or antibiotic ointment to the culteter exit site and all suture sites.
- 10. Fold a 2" x 2" gauze in half and place it under the catheter hub.
- 11. Place a 2" x 2" gauge over the catheter exit site and suture site.
- 12. Apply the transparent dressing, centering it over the gauze.
- Loop tubing and tape it securely to dressing or skin (prevents pulling on the catheter)

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CLEARING OCCLUDED CATHETERS

Purpose:

To restore patency to a catheter with an occlusion

Supplies:

1 - Sterile injection cap

1 ml - 5,000 IU/cc urokinase

- 1 10cc syringe with attached 20-21 gauge 1" needle
- 1 10cc normal saline-filled syringe with attached 20-21 gauge 1" needle Isopropyl alcohol wipes

Procedure:

- 1. Wash hands.
- 2 Remove injection cap, attach an empty 10cc syringe and attempt to aspiral If aspiration is successful, withdraw clots and flush catheter with 10 ml normal saline. Replace cap. If aspiration is unsuccessful, proceed to Step
- Obtain physician's order for the use of urokinase 5,000 IU/cc to declot the catheter.
- Draw up enough urokinase 5,000 IU/cc into a 10cc syringe to equal the internal volume of the catheter (volume may be reduced if catheter length has been cut):

Single Lumen Catheters

8 Fr XL = 1.2cc

8 Fr = 0.9cc

7 Fr = 0.7cc

5.5 Fr = 0.4cc

3.5 Fr = 0.13cc

Dual Lumen Catheters

9.5 Fr = red 0.83cc / white 0.52cc

9.5 Fr XL = red 0.9cc / white 0.57cc

PICC Catheters

Single lumen = .33cc

Acute Care Catheters

Dual lumen:

15cm = red 0.48cc / white 0.27cc

20cm = red 0.56ec / white 0.30cc

30 cm =red 0.74 cc / white 0.35cc

Triple lumen:

15cm = red 0.38cc / yellow 0.27cc / white 0.28cc

20cm = red 0.44cc / yellow 0.30cc / white 0.31cc

30cm = red 0.57cc / yellow 0.35cc / white 0.36cc

Aseptically attach the urokinase-filled syringe to the catheter hub. Slowly and gently inject the urokinase solution into the catheter. If strong resistance is felt, to avoid catheter rupture, do not force entire amount into catheter.

Leave 10 ml syringe attached to catheter. Do not attempt to aspirate for 1-2 hours.

After 1-2 hours, attempt to aspirate the drug and residual clot. If unsuccessful, repeat prokinase instillation.

When patency is restored, aspirate 5 ml of blood to assure removal of all drug and closs.

Remove blood-filled syringe and replace it with a 10cc syringe filled with normal saline. Flush catheter to verify patency.

Attach sterile, saline-filled injection cap.

TE:

Infusing:

TPN and lipid "all in one" solutions and urokinase does not clear the blockage, an ethanol 70% solution may be instilled and left in place for 1 hour. Follow procedure for urokinase instillation. This may help to clear the catheter of lipid material deposition.

TPN or calcium and phosphate IV solutions or other medications which might leave a precipitate and urokinase does not clear blockage, a sterile 0.1 N Hydrochloric Acid solution may be instilled in the catheter and left in place for one hour. The solution is then aspirated and the catheter flushed with normal saline. This may help to clear the catheter of calcium-phosphate or other drug precipitates.

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'RESSURE MONITORING

determine blood volume, fluid replacement needs, and right heart pressures.

aler manometer)

fluid

iter manometer

tubing

ipcock

ocedure:

aler manometer)

Set up IV lines and manometer according to hospital protocol.

Flush tubing with IV fluid.

Zero the manometer at the level of the prone patient's right atrium.

Turn the stopcock on the manometer so that the IV fluid runs into the manometer, not the patient.

As the fluid level slowly nears the top of the manometer, rotate the stopcock to allow fluid to flow from the manometer into the patient.

Fluid will slowly lower in the manometer until it stabilizes. Record that value.

Subtract the "valve closing pressure" from the manometer reading (5.44cm H,O or 4mm Hg) to give the true central venous pressure reading.

oplies:

essure transducer)

ssure transducer

splies as indicated by hospital procedure

edure:

essure transducer)

Set up pressure transducer per hospital protocol.

Continuous IV flow through the catheter maintains the Groshong™ valve in the "open" position, permitting a direct reading of central venous pressure. There is no need to subtract the valve closing pressure.

CONNECTOR REPAIR PROCEDURE

Purpose:

To repair a damaged or loose connector.

Supplies:

1 - Replacement Connector:

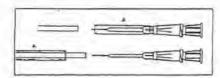
Catheter Size	Connector Calor	Connector Product Code No.
8 Fr.	Orange	7712800
7 Fr.	Pink	7712700
5.5 Fr.	Yellow	7712550
3.5 Fr.	Green	7712350
9.5 Fr. DL	Red	7712500
9.5 Fr. DL	White	7712510
4 Fr. (PICC)	Gray	7712400

- 3 Isopropyl alcohol wipes
- 1 Povidone-iodine wipe
- 1 Sterile scissors
- T Pr. Sterile gloves
- 1 10cc syringe with attached 20-21 gauge 1" needle filled with 5cc normal siline

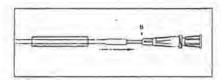
Procedure:

- Obtain a new sterile replacement connector of the correct size (color-
- 2. Determine where the damaged catheter is to be cut off. Do not cut at this time. Be sure to retain as much of the original external segment as possible If the external segment needs to be lengthened, see the Single Lumen or Dual Lumen Body Repair Procedure.
- Thoroughly clean the catheter with alcohol and povidone lodine wipes at the point where it is to be cut.
- Wearing sterile gloves and using sterile scissors, cut the catheter off at a 90° angle, 1/2" distal to the location of the previous connector or damaged site to remove any damaged catheter material.

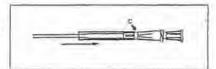
Transfer the clear sleeve (A) onto catheter from connector.



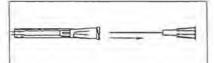
Firmly push catheter onto adapter to Position B.



 Slide the clear oversleeve over the catheter and hub to Position C. If catheter starts to bunch up, swab the catheter with an alcohol wipe before sliding sleeve over it.



- 8. Remove and discard stylet.
- Attach injection cap and flush catheter with normal saline, or flush catheter with normal saline and attach IV tubing.



SINGLE LUMEN CATHETER BODY REPAIR PROCEDURE

Purpose:

To replace or lengthen a damaged external catheter segment

Supplies

1 - Sterile repair kit:

8 Fr #7741800

7 Fr #7741700

5.5 Fr #7741550

3.5 Fr *7741350

Povidone-lodine wipe

Isopropyl alcohol wipes

Atraumatic clamp

2 - 4" x 4" gauze pads

10 cc syringe with attached 20-21 gauge 1" needle filled with 10cc normal saline Surgical mask and cap (per hospital policy)

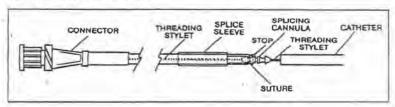
Tape

Tongue blade

Isopropyl alcohol solution

Sterile gloves

Component Nomenclature:



Procedures

- 1. Wash hands thoroughly.
- Clean the catheter segment to be repaired with a povidone-iodine wipe. Remove iodine with alcohol wipe. Allow to dry completely.
- 3. Place the cleaned catheter on a sterile 4" x 4" gauze.

BLUNT

NEEDLE

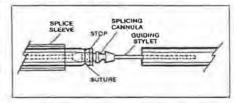
VON CLARK DAVIS v. WARDEN CASE NO. 2:16-cv-00495 APPENDIX - Page 3447 Put on sterile gloves. Remove the powder from the gloves with the alcohol solution and 4" x 4" gauze. (Powder adheres to silicone).

ADHESIVE

- 5. Place drape to create a sterile field.
- Load adhesive into syringe barrel and insert plunger.
- Clamp catheter with an atraumatic clamp near the skin exit site.
- Cut the external portion of the damaged catheter on a 90° angle. The length of the

remaining external segment must be at least 2 inches to permit catheter repair and prevent catheter retraction under the skin.

 Using the green threading stylet, align the splicing cannula (pre-attached to replacement segment) to the external portion of the damaged catheter. Push the cannula into the catheter segment until the catheter reaches the stop.



PLUNGER

 Tie the suture onto the catheter/cannula just behind the annular ring. Knot at least four times to secure the suture in place.

- 11. Apply adhesive to the outside of the joint for a distance of 1/2 inch on either side of the connection. Slide the splice sleeve over the area of the joint. Inject additional adhesive under the splice sleeve to fill the space between the catheter surface and the splice sleeve. Roll the splice sleeve between fingers to spread adhesive. Wipe off excessive adhesive.
- Remove the green threading stylet from the catheter hub.

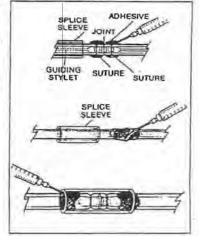
STERILE FIELD NO LONGER REQUIRED

 Remove atraumatic clamp, if used. Aspirate the air in the replacement segment. Then gently fill the catheter with 10cc sterile normal saline.

CAUTION: Excess pressure may rupture the joint

- Fasten repaired catheter segment to tongue blade with tape.
- 15. Avoid allowing the adhesive to come in contact with the patient's skin for 48 hours. If necessary, the catheter may be used for infusion after four hours.

The joint will not achieve full mechanical strength for 48 hours, at which time, the tongue blade may be removed.



DUAL LUMEN CATHETER EXTENSION REPAIR PROCEDURE

Purpose:

To replace damaged extension tubing of the dual-lumen Groshong™ Catheter

Supplies:

Sterile repair kit #7740000

Povidone-iodine wipe

Isopropyl alcohol wipe

Atraumatic clamp

2 - 4" x 4" gauze pads

10 cc normal saline-filled syringe with attached 20-21 gauge I" needle

Surgical mask and cap

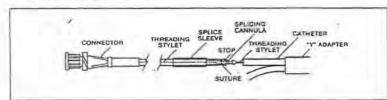
Tape

Tongue blade

Alcohol solution

Sterile gloves

Component Nomenclature:



Procedure:

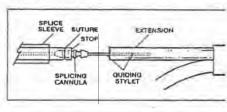
- 1. Wash hands thoroughly.
- Clean the extension to be repaired with povidone-iodine wipe. Remove povidone-iodine with alcohol wipe. Allow to dry completely.
- 3. Place the cleaned extension on a sterile 4" x 4" gauze.
- Put on sterile gloves. Remove the powder from the gloves with the alcohol solution and 4" x 4" gauze. (Powder adheres to silicone).
- 5. Place drape to create sterile field.

- Load adhesive into syringe barrel and Insert plunger.
- Clamp catheter with an atraumatic clamp above the "Y" adapter.
- 8. Cut the damaged extension on a 90° angle. The length of the remaining extension must be sufficient to permit repair without inserting the splicing cannula (1/2" inch long) into the "Y"

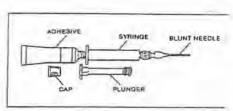
joint.

the stop.

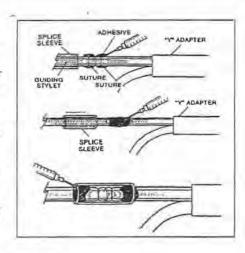
 Using the green threading stylet, align the splicing cannula (pre-attached to replacement extension) with the remaining extension segment. Push the splicing cannula into the extension segment until the extension segment reaches



 The the suture onto the extension/cannula just behind the annular ring. Knot at least four times to secure the suture in place.



- 11. Apply adhesive to the outside of the joint for a distance of 1/2" on either side of the connection. Slide the splice sleeve over the area of the joint. Inject additional adhesive under the splice sleeve to fill the space between the extension surface and the splice sleeve. Roll the splice sleeve between fingers to spread adhesive. Wipe off excess adhesive.
- Remove the green threading stylet from the catheter hub.

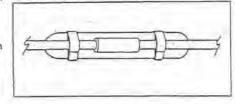


STERILE FIELD NO LONGER REQUIRED

 Remove atraumatic clamp, if used. Aspirate the air in the replacement extension. Then gently fill the extension and the catheter with 10cc sterile normal saline.

CAUTION: Excess pressure may rupture the joint

- Faster repaired extension to tongue blade with tape.
- 15. Avoid allowing the adhesive to come in contact with the patient's skin for 48 hours. If necessary, the catheter may be used for infusion after four hours. The joint will not achieve



full mechanical strength for 48 hours, at which time, the splint may be removed.

DUAL LUMEN CATHETER BODY REPAIR PROCEDURE

Purposer

To replace a dual-lumen external catheter segment damaged between the body site and the bifurcation of the extensions

Supplies:

Sterile repair kit #7742000

Povidone-iodine wipe

Isopropyl alcohol wipe

Atraumatic clamp (If needed)

2 - 4" x 4" gauze pads

10 cc normal saline-filled syringe with attached 20-21 gauge 1" needle

Surgical mask and cap

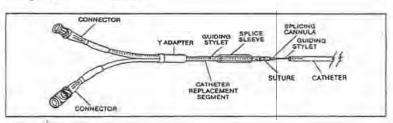
Tape

Tongue blade

Isopropyl alcohol solution

Sterile gloves

Component Nomenclature:



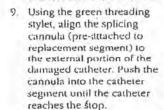
Procedure:

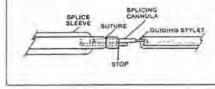
- 1. Wash hands thoroughly.
- Clean the catheter segment to be repaired with a povidone-iodine wipe. Remove the povidone-iodine with an alcohol wipe. Allow to dry completely.
- 3. Place the cleaned catheter on a sterile 4" x 4" gauze.
- Put on sterile gloves. Remove the powder from the gloves with the alcohol solution and 4" x 4" gauze. (Powder adheres to silicone).
- 5. Place the drape to create a sterile field.

- Load adhesive into syringe barrel and insert plunger.
- If needed, clamp catheter with an atraumatic clamp near the skin exit site.
- Cut the external portion of the damaged catheter on a 90° angle. The length of the remaining external segment

must be sufficient (at least 2 inches) to permit catheter repair and prevent catheter retraction under the skin.

ADHESIVE

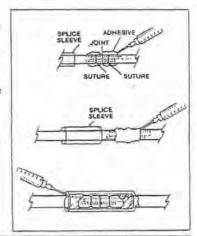




PLUNGER

SYRINGE BLUNT NEEDLE

- Tie the suture onto the catheter/cannula just behind the annular ring. Knot at least four times to secure the suture in place.
- 11. Apply adhesive to the outside of the joint for a distance of 1/2 inch on either side of the connection. Slide the splice sleeve over the area of the joint. Inject additional adhesive under the splice sleeve to fill the space between the catheter surface and the splice sleeve. Roll the splice sleeve between fingers to spread adhesive. Wipe off excessive adhesive.



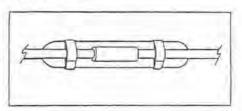
12. Remove the green threading stylet from the catheter hub.

STERILE FIELD NO LONGER REQUIRED

 Remove atraumatic clamp, if used. Aspirate the air in the replacement segment. Then gently fill each lumen with 10cc sterile normal saline.

CAUTION: Excess pressure may rupture the joint

- Fasten repaired catheter segment to tongue blade with tape.
- 15. Avoid allowing the adhesive to come in contact with the patient's skin for 48 hours. If necessary, the catheter may be used for infusion after four hours. The joint will not achieve



full mechanical strength for 48 hours, at which time, the splint may be removed.

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TROUBLESHOOTING GUIDE

1. ASPIRATION DIFFICULTIES

A. Possible causes

- Failure to flush according to Catheter Irrigation Procedure, resulting In Jumen obstruction.
- Blood clot, fibrin sheath, or particulate matter obstructing valve when catheter is aspirated.
- A clot or other obstruction in the catheter lumen can produce a one-way valve effect. During infusion, the catheter wall expands slightly and allows fluid to flow around the plug. During aspiration, the catheter wall contracts slightly, tightening down around the obstruction and preventing aspiration.
- Fibrin sheaths usually begin to form within a few days after the insertion of a central venous catheter. If it has grown enough to extend to the tip of the catheter, it may obstruct the catheter valve when aspiration is attempted, but offer no resistance to infusion.
- Compression or transection of the catheter between the clavicle and the first rib ("pinch-off area").
- 4. Kinked catheter outside or inside the body.
- . Suture constriction at the catheter skin exit site, cuff, or vessel insertion site.
- Cutheter may be pulled too tight through skin tunnel, causing kink at vessel insertion site, or where it curves into the subcutaneous tunnel.
- Catheter may be curled or kinked within the vessel, or under the dressing.
- 5. Malposition of catheter (i.e. in jugular vein, outside of vein)

B. Possible solutions

- 1. Visually check catheter for any exterior kinks, or constricting sutures. Check operative report, or with placement physician for placement of sutures. If sutures are present, their removal may release the constriction and allow aspiration. Exterior sutures may be replaced using the removable suture wing if the cuff is not healed in.
- If no resistance to infusion is felt, attempt to flush vigorously with 10cc normal saline. Then pull back on syringe plunger 2-3cc, pause and proceed with aspiration.
- If resistance to infusion is felt, check for signs of extravasation. If present, notify physician of possibility of catheter transection and embolization. If not present, see Step #5.
- Attempt to aspirate with a 20cc syringe (creates a greater vacuum).
- 5. Move patient's arm, shoulder and head to see if a change in position will

allow aspiration. If aspiration can only be accomplished with the patient in a certain position, the patient should be examined to see if the catheter has been placed in the "pinch-off" area. See Step #7.

- Obtain physician's order and instill urokinase 5000 IU/ml per Clearing Occluded Catheters Procedure.
- 7. Obtain physician's order for chest x-ray to verify catheter placement:
- If the insertion into the subclavian vein is between the clavicle and first rib
 ("pinch-off" area), the catheter may be occluded mechanically enough to
 allow low-volume infusion; but prevent aspiration. The more medial the
 insertion site, the greater the potential for "pinch-off". Catheters in this area
 are at risk for catheter transection and embolization and the physician
 should evaluate the patient for catheter replacement.
- . If the catheter up is not in the superior vena cava, it should be repositioned.
- . If the catheter tip is out of the vein, it should be replaced.

References

Airken, Delmar R., and Minton, John P., "The Pinch-Off Sign": A Warning of Impending Problems with Permanent Subclavian Catheters". American Journal of Surgery, Vol. 148, November 1984, pp. 633-636.

Rubenstein, Richard B., et al, "Hickman Catheter Separation", Journal of Parenteral and Enteral Nutrition, Vol. 9, No. 6, Nov/Dec 1985, pp. 754-757.

II. BLEEDBACK IN CATHETER

A. Possible causes

- 1. A blood clot or particulate matter may be holding the valve open.
- Migration or placement of the catheter in the internal jugular vein, or vessel other than the superior vena cava, or coiling of the catheter in a vein may position the catheter tip where the valve is pushed open.
- 3. Placement of the catheter in the right atrium or ventricle:
- Contractions of the heart muscle can force open the catheter valve.
- Impingement of the catheter tip on the tricuspid valve, heart wall, or apex of the heart can force the catheter valve open.
- 4. Catheter valved tip cut off in error during catheter placement.

B. Possible solutions

- 1. Attempt to aspirate clot out of the lumen.
- If no resistance felt, flush vigorously with 10cc normal saline. If resistance is felt, see #3.

- Obtain physician's order and instill urokinase or other solution per Clearing Occluded Catheters Procedure to clear lumen and valve of blood clots, or precipitates.
- Obtain physician's order for chest x-ray or dye study to determine catheter position.
- Check for radiopaque tip to verify if it is still in place. If not, treat catheter as an open-ended catheter, using heparin and clamping with an atraumatic clamp when opening it to the air.
- If malpositioned, coiled or kinked, catheter should be repositioned with the tip in the superior vena cava. If unable to reposition for some reason, treat catheter as an open-ended catheter, using heparin and clamping with an atraumatic clamp when opening it to the air.

III. CATHETER OCCLUSION

A. Possible causes

- Blood clot completely obstructing lumen.
- 2. Drug precipitate completely obstructing lumen.
- 3 May be kinked, coiled, damaged, or pinched between the clavicle and the first rib.
- 4 Catheter valve may not be within vein.
- If sutures were used during the placement of the catheter, they can tighten and restrict flow.
- May be partially or completely transected. Transection can occur from the repeated pressure of the clavicle and the first rib on the catheter during normal movement if it is placed through the "pinch-off" area.

B. Possible solutions

- Attempt to aspirate blood clot.
- Move patient's arm, shoulder and head to see if position change affects ability to infuse. If so, see #5 (could be pinch-off).
- Inspect patient and operative report for presence of sutures around the
 catheter. If sutures are present, they should be removed. Removable suture
 wings are available for holding long-term catheters in place until the Dacron
 cuff heals in enough to anchor the catheter.
- Obtain physician's order and instill urokinase or other solution per Clearing Occluded Catheters Procedure.
- Obtain physician's order for a chest x-ray or dye study to determine the position of the catheter.

- If the catheter tip is not in the superior vena cava, the catheter should be repositioned.
- . If the catheter tip is not in a vein, the catheter should be replaced
- If the catheter has been placed through the "pinch-off" area, between the
 clavicle and the first rib, and is being compressed enough to interfere with
 infusion or aspiration, it is at risk for catheter transection and embolization.
 The physician should evaluate the patient for catheter replacement.

References:

See under "Aspiration Difficulties".

IV. CATHETER DAMAGE

A. Possible causes

- 1. Repeated clamping
- 2. Contact with a sharp object
- Rupture from attempt to irrigate an occluded catheter with a small syringe (i.e. 1 or 3cc syringe).
- Small syringes can generate very high internal pressures with very little force. The back pressure from an occlusion may not be felt when using a small syringe until the damage has occurred.

B. Possible solutions

- Fold the catheter between the patient and the damaged area and tape it together, or clamp the catheter between the patient and the damaged area with a smooth-edged, atraumatic clamp.
- 2. Determine the site of damage and the size and type of catheter.
- Refer to the appropriate Catheter Repair Procedure to repair the damage. At least 2 inches of intact catheter beyond the skin exit site is needed to be able to repair the body of the catheter.
- 4. Always use a 10cc syringe or larger when irrigating the catheter.

V. AIR IN LINE

A. Possible causes

- Hole in catheter.
- 2. Injection cap not prefilled with normal saline.
- 3. Loose connections (injection cap, IV tubing).
- If the oversleeve has not been put on the catheter connector at all or if it has
 not been slid all the way onto the hub, air and fluid leakage can occur.
- 4. "Manometer effect" holding the catheter connector end above the level of

the heart while it is open to the air creates a manometer effect, with fluid dropping to a level 8-10 cms above the GroshongTM valve at the tip of the catheter. Air will not enter the blood stream unless the valve has been propped open by a blood clot or drug precipitate, or the catheter tip has been placed where mechanical pressure forces the valve open.

- Diffusion and evaporation of water through the external catheter segment due to silicone permeability. This may be noticed in the Groshong™ catheter because it is flushed less frequently than other silicone catheters, and it is clear, allowing the visualization of air, which is not possible with other silicone catheters.
- Silicone has an open matrix which allows certain fluids and gases to diffuse through the membrane.
- The amount of diffusion that takes place is dependent on many factors.
 Therefore, not all patients with silicone catheters will demonstrate this phenomenon.
- Diffusion of water across the silicone membrane is not likely to occur where
 the catheter is inside the body, due to the high water content of the body.
 The amount of air observed in the external segment will, therefore, be only
 about 0.5cc or less in volume.

References:

Dennis, William E., and Larson, Willard D., "Permeation and Silicone Elastomers", Dow Corning Corporation, Medical Products Business, Technical Service & Development, Midland, MI.

B. Possible solutions

- 1. Check catheter for leakage by flushing well with normal saline.
- 2. Prefill injection cap with normal saline before attaching it to the catheter.
- Check for loose connections (injection cap, IV tubing). Check for the
 presence of the oversleeve. If present, check for proper attachment of the
 connector and oversleeve (see Connector Repair Procedure).
- Aspirate the air and then irrigate the catheter with 10cc normal saline to flush out any aspirated blood.
- 5 Flush the catheter with 5cc normal saline if 1/2cc of air is not considered to be a risk to the patient.
- Perform procedures requiring the catheter to be opened to the air with the connector end below the level of the heart.

VI. FLUID LEAKAGE FROM CATHETER EXIT SITE

A. Possible causes

- Catheter punctured by sharp object (i.e. scalpel, suture needle, trocar) just prior to placement.
- Catheter ruptured from attempt to irrigate an occluded catheter with a small syringe (i.e. 1cc or 3cc syringe).
- Small syringes can generate very high internal pressures with very little manual force. The back pressure from an occlusion may not be felt when using a small syringe until the damage has occurred.
- Catheter may have become encapsulated by a fibrin sheath which is preventing infused fluid from entering the venous system. The fluid will then take the path of least resistance, flowing back along the outside of the catheter to the skin exit site.
- 4. Catheter may have been transected by the clavicle and the first rib due to placement through the "pinch-off" area, allowing fluid infused to flow back along the outside of the catheter to the skin exit site.

B. Possible Solutions

- Infuse 10cc of normal saline and observe for signs of fluid extravasation under the skin.
- Obtain physician's order for a dye study through the catheter to determine path of fluid flow.
- Remove the catheter if a leak or transection is discovered inside the body. If a transection has occurred, the embolized fragment may have to be retrieved with a snare. Please report such incidents to Catheter Technology Corporation (800-443-3385).
- If a leak is discovered in the catheter outside the body, repair it following the Catheter Repair Procedure appropriate for the catheter type and the location of the damage.
- 5. If a fibrin sheath is encapsulating the catheter, obtain order for instillation of urokinase 5,000 IU/ml through the catheter into the fibrin capsule. Follow the procedure for Clearing Blocked Catheters. Urokinase may be able to dissolve or soften the sheath enough so that aspiration of it through the catheter will be possible.

References:

See under "Aspiration Difficulties" and "Clearing Occluded Catheters Procedure".

RIGHT ATRIAL CATHETERS

	HICKMAN	1	аяознома		CENTRAL VENOUS
È	Inserted Into right strium	t.	inserted into uppermost up of right abium	T.	Inserted into the subclavian
2.	White, flexible catheter usually has white hub	2	Opeque, flexible catheter usually has prange hub	2	Triple lumen catheter proximal, middle, distal ports
э.	Must use smooth clamps (no teeth) when removing cap or changing tubing	3.	Does not need to be clamped. Has an anti-reflux valve in tip.	2.	Clamp CVC pors with amouth edged clamps
4.	Use only one inch needle when drawing blood or hanging fluids. A longer needle can puncture the cetheter	4.	Same	4.	Same
5.	Use only luer-lok cape on the end of the catheler. Change at least once a week and PRN	5.	Same	5.	Same
5.	Must flush with 5cc hep-lock solution (1:100u/cc) every day	4.	Must flush with 5cc normal saline once a week if not in use	8.	Flush every port not in use with 2cc Hep-lock solution (1:100 u/cc) every 8 hours
7.	Flush with slow even pressure. May flush through cap	7.	Flush vigorously to clear out valve. It's best to flush with the cap off	7.	Flush with slow even pressure. May flush through cap
a .	After blood drawe, flush with 20cc of normal saline their 2cc hop-lock solution after each IV med infusion		Flush with Scc normal saline after each IV medication (II no meintenance IV) and with 20cc after blood drawe	8.	Flush with Sec normal saline then 2cc hap-lock solution after blood draws or aspiration
0.	Change dry sterile dressing 2dweek and blocclusive dressing Q week	٥.	Same	9.	Change dry sterile dressing every 48 hours and blocclusive Q week
10.	Colf excess cerhoter up and tape on chest with cap pointing upwards towards patient's aboutour.	10.	Sarrie	10.	Same

Catheter Management

Karen Burke, RN, BSN, CNSN

SHORT TERM CATHETERS

Infection and occlusion are the most commonly occurring complications of central line catheters. With the insertion of catheters using sterile technique and the evolution of strict protocols for catheter site care, the rate of catheter infection has decreased.

Catheter Sepsis

Definition:

- 1. Catheter associated infection
 - a. Purulent discharge at the catheter site
 - b. > 15 colony forming units on a semi quantitative culture
- Catheter related bacteremia
 - Same organism cultured from the catheter and blood
 - Increased temperature; increased WBC

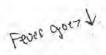
Evaluation of Suspected Catheter Infection:

- Work up a febrile patient with a central line with no obvious source.
 Look for local signs of infection.
 - a. If local infection is suspected culture site
 - If culture is positive, catheter should be removed and a catheter should be placed in a new site
- Work up for a febrile patient with a central line with no obvious source of infection.
 - a. change catheter over a guidewire and culture
 - Semi Quantitative Culture- > 15 colony forming units are significant for confluent growth
 - Culture Tip- cut tip long enough to roll over agar plate
 - Culture Skin Segment- that segment from entry of skin to entry of vein. (2-3 cm)
 - 4. Blood Cultures- peripherally and centrally
 - If tip > 15 cfu, the catheter is removed; patient is treated with the appropriate antibiotic and a new catheter site is chosen

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cath tip culture



- c. If the patient efferverses after catheter was removed, the catheter was most likely the culprit even though the culture may be negative
 - d. After rolling the catheter over an agar plate, the catheter is placed in a broth culture. This will provide information about inside of the catheter
 - e. Microorganisms that cause catheter infection
 - Gram positive cocci- 60%
 - a. Coagulase Negative Staphylococci
 - b. Staphylococcus aureus
 - c. Streptococcus
 - Gram negative Bacilli- 25%
 - Fungi- 10%- TPN supports the growth of fungal infection
 - Miscellaneous organisms

Types of Short Term Catheters

- Single Lumen Catheter- lower rate of infection
- 2. Triple Lumen Catheter- large hole, more ports, multiple portal of entry
- 3. Swan Ganz

Causes of Catheter Related Infection

- 1. Migration of micro organisms from skin through catheter tract
- 2. Contamination of the catheter hub
- 3. Contamination of infusion fluid- rarely
- Hemogenous seeding of the catheter from another source

Prevention

Insertion-

Site Selection- femoral higher incidence of infection. Jugular is next due to difficulty of maintaining dressing integrity. Subclavian approach is the easiest to dress, least likely to become infected.

Sterile technique during insertion is necessary. Use mask, gloves, gown, drapes. Watch guidewire! Assistant needs mask.

Duration- Indefinitely

Although there are studies that support changing every 3 to 7 days

-When Nutrition Support Team places a catheter it is not changed
unless there is a problem with the catheter.

-Some of our catheters have remained in place for months

Use for TPN- greater chance of infection when a catheter is used for TPN, reserve one port for TPN

Dressing Management

Materials should be packaged in a sterile kit

 should include gloves, alcohol, betadine ointment, gauze dressing,
 skin protectant and tape

Site Care

- Acetone/Alcohol- acetone can be irritating; alcohol is defatting agent. destroys integrity of cell wall; not effective against yeast and fungi
- 2. Hydrogen Peroxide-
- Povidone Iodine- effective against yeast and fungi
 kills in 30-60 seconds
 -bacterialcidial effect last 8-12 hours
- Chlorhexidine- More difficult to use because it needs to be washed off: Make study showed chlorhexidine was 3 fold better in preventing infection. We have used for skin prep in patients who are allergic to betadine.
- Ointment

3

- Betadine- use small amount; large amount can irritate
 the skin
- b. Neosporin- increased risk for superinfection

Frequency of dressing changes

- Gauze and tape- every 48-72 hours; M-W-F is an acceptable schedule
- Transparent- dressing can remain in place up to 7 days without changing
- 3. Any time occlusive seal is broken

Catheter dressing

Type

Gauze, tape

Transparent- new transparent dressing Opsite 3000- allows water vapors to evaporate

Care of hub- werth, clean & Alc, Betalyne

Silver impregnated cuff and catheter

- watch for signs and symptoms after line insertion

Complications of CVC catheter

- Pneumothorax- can be delayed
 -emaciated thin patient more at risk
 - -need experienced physician
 - > 25% require chest tube insertion
- Cathetec malposition- radiologic confirmation of position is necessary even with guidewire:changes
- 3. Thrombosis- tenderness, pain, swelling in neck/collarbone region -pain or swelling in the arm on the side catheter is placed -sluggish infusion flow

0136

Sec. 17.

- Arterial puncture- often occurs when patients are dehydrated -better to hydrate prior to line insertion

Occluded Catheters

Catheter flush, frequency, concentration, volume

7 Wan

Things that clog:

-blood

-Calcium- phosphate precipitate

-IV lipids

Jer Heber/dyydgpi.

100 m/m

Declotting Occluded Catheter

Many hospitals require physician to aspirate clot

Urokinase- enzymatic protein used for fibrin occluded CVC half life 11-23 menulle YTIMO セッ 5000 units/ml know volume of catheter

Catheter Clearance Protocol for Occluded Central Venous Catheters

SUSPECTED CAUSE OF OCCLUSION	AGENT OF CHOICE TO CLEAR CATHETER
Blood coagulum	Urokinase (5000 units/ml)
Calcium-phosphate precipitate	0.1 N hydrochloric Acid
N lipid	Ethanol 70%

If you suspect blood coagulum as the cause of obstruction, use urokinase (x 2). If you note an obvious calcium-phosphate precipitate from parenteral nutrition (PN) solution, or if urokinase fails, use 0.1N HCL solution (x2).

If the above two agents fail to re-open the catheter and the patient receives IV lipids through this catheter (especially a 3-in-1 PN solution), a waxy lipid deposit may have caused the occlusion, use ethanol 70% (x 2).

WARNING: Use ONLY a 1 ml TB syringe to instill any solution into an occluded catheter. Use of a larger syringe may generate excess pressure and rupture an occluded catheter.

WARNING: This procedure is NOT to be used for clearing occluded UAC's.

Procedure for all catheter clearance agents:

- USING A 1 ML SYRINGE, carefully instill up to 1 ml of the selected catheter clearing agent into the catheter.
- Allow solution to remain in catheter for 5 minutes.
- Attempt to aspirate blood using a 5 ml syringe. If blood cannot be aspirated, repeat attempt to aspirate every 5 minutes for 30 minutes total.
- If after 30 minutes the catheter is not open, repeat the dose and the every 5
 minutes aspiration procedure.
- If catheter opens, flush the catheter with saline.

If urokinase fails and parenteral nutrition is being infused, try 0.1N HCL next. If urokinase and HCL fail, and if IV lipid is being infused, try ethanol 70%. If the entire procedure fails,

6

7

call your surgeon and beg forgiveness!

Quality

%Sepsis

< 5%

Septic Episode/1000 catheter days

 $\frac{Incidence}{1000 \text{ cath. day}} = \frac{Incidence \text{ of Sepsis}}{\text{# cath day}} = \frac{X}{1000}$

ex. (12) incidence of sepsis = X1435 # cath, day 100

> 12 = .0084 X 1000 = 8.4 septic episodes/1000 catheter days

CATHETER MANAGEMENT

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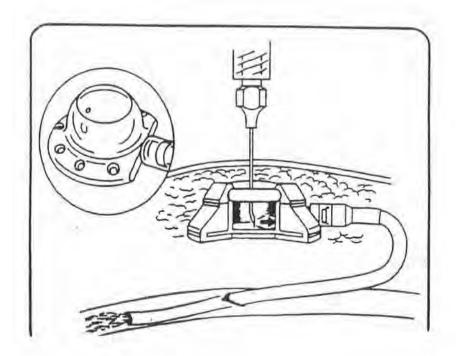
Implanted Ports
Use and Maintenance

1

Introduction

Implanted Ports were developed to help provide reliable vascular access for patients requiring long-term drug or fluid therapy. The port is a totally implantable vascular access device which permits the infusion of medications, parenteral solutions, blood products (intravenous ports only) and other fluids; and for blood sampling.

Port access is performed by percutaneous needle insertion with a non-coring needle. The needle is inserted perpendicularly through the port septum into the reservoir. The drug or fluid can be administered by bolus injection or continuous infusion. The injected fluid flows rom the reservoir through the catheter.



2

Surgical Implantation

Implantation may be accomplished through a variety of surgical techniques. The surgeon will choose the device and implantation technique most appropriate for the patient's body size and therapy.

Intravenous Implantation

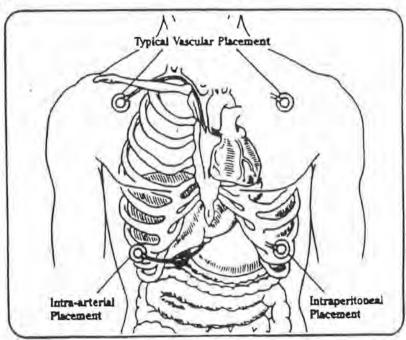
Implantation of an intravenous implanted port can often be performed as an outpatient procedure under local anesthetic. The port is typically placed in the right infraclavicular fossa. The catheter is threaded through the subclavian vein and terminates at the junction of the superior vena cava and the right atrium.

Intra-arterial Implantation

Placement of an intra-arterial port is an inpatient procedure. The port is often placed over the lower ribs with the catheter inserted into the hepatic arterial system.

Intraperitoneal Implantation

Placement of an intraperitoneal port is also an inpatient procedure. The port pocket is typically located over the lower ribs. The peritoneal catheter is placed with the tip deep in the pelvis.

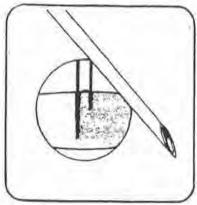


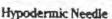
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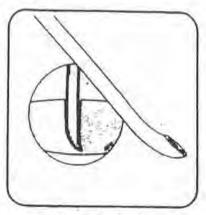
Non-coring Needle

Only non-coring needles should be used with any implanted port including all Davol Implanted Ports. The non-coring needle has a deflected point that helps avoid damage to the septum.

Non-coring needles are availabel in straight or right angle configurations in various lengths and gauges. Either straight or right angle needles can be used for bolus injections. Right angle needles are recommended for continous infusions because of their low profile and ease of securement to the patient.

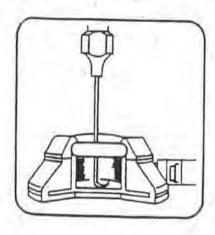






Non-coring Needle

Care should be taken when inserting a non-coring needle into an implanted port. Excessive insertion pressure or "grinding" of the needle against the portal base may damage the needle point. A "barbed" needle point may damage the resealing septum.



"Barbed" Non-coring Needle Point

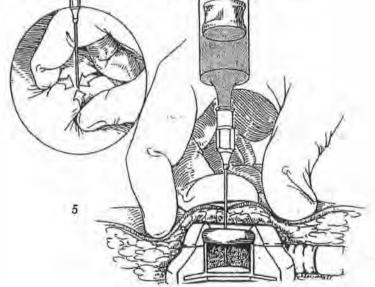
A. ACCESSING THE PORTS

Equipment

IV fluid, tubing and extension Stopcock (3 Way) 10cc syringes Normal Saline 30cc vial Povidone-iodine swabsticks Sterile drape Alcohol swabs Sterile gloves 90 degree angle Huber needle 1 inch, 19 gauge (may use different size Huber needle) Tincture of Benzoin Steri Strips Blood tubes Heparin-lock solution 4 x 4 gauze dressing Biocclusive dressing 2 inch tape Luer-lok cap

The port is located by gentle palpation. A triple skin preparation of alcohol followed by iodine is done regardless of intended procedure. (i.e.: bolus therapy, continuous infusion, or routine heparinization).

Accessing any port requires a percutaneous needle stick. In order to maximize the life of the silicone septum, only non-boring huber point needles are recommended. A non-coring needle, because of its tip geometry, tends to push the septum apart rather than "coring" it, as would occur with a hypodermic needle. A port will accommodate anywhere from 500 to 2,000 needle sticks, varying with each manufacturer and the gauge of needle used.



A 90 degree angled huber point needle is attached to an extension tubing with clamp. The clamp should remain <u>closed</u> whenever solution is not infusing through the port. This exerts positive pressure against the distal catheter lumen thus preventing inadvertent migration of blood in to the catheter tip, which could result in catheter occlusion.

The needle and attached extension tubing are primed with normal saline, retaining approximately five mls in the syringe. The needle is inserted into the septum and advanced until it touches the bottom of the port body. The extension tubing is unclamped and the five mls of saline slowly injected into the system. It is important to limit the injection rate to ten mls per minute to avoid an overpressurized condition in the catheter. Aspiration will confirm needle placement. Failure to obtain a blood return may mean the catheter is abutting a vessel wall. Having the patient change position my help to dislodge the catheter tip. Once placement is confirmed, the tubing is clamped and the saline syringe is removed. You are now ready to proceed with drug therapy or blood sampling.

B. DRUG THERAPY:

To administer a bolus injection, the syringe of medication is attached to the tubing. The clamp is released while positive pressure is maintained on the syringe plunger. The drug is injected slowly. If more that one drug is to be administered, a saline flush between, medications will prevent drug interactions.

For continuous infusions, the primed needle with extension tubing is inserted into the port and connected to a primed ambulatory infusion pump. The pump is turned "on" and the extension tubing is unclamped. When you are assured that the infusion is proceeding smoothly, lodine ointment is applied to the puncture site and the needle is stabilized with sterile gauze and tape. Finally, a transparent occlusive dressing is applied. Upon termination of drug therapy the port system is flushed with five mls of normal saline. At all times during drug therapy, it is important to monitor the patient for abnormal sensation or pain at the site. If extravasation is suspected, the infusion should be discontinued and the extravasation protocol adopted by the institution should be followed.

C. DRESSING CHANGES:

Patients receiving continuous infusion via the implanted vascular access port, usually have weekly dressing and needle changes by appropriately trained personnel. Follow the protocols established by your institution. The final product should be an occlusive sterile transparent dressing that is further secured by a window frame of tape. Adherence to sterile technique remains the nurse's responsibility.

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D. BLOOD SAMPLING:

Blood sampling may be performed as an isolated procedure, or at the time of a bolus injection or continuous infusion. Follow the procedure for accessing the system, and flush the port with five mls of normal saline. Because the first sample of blood may be diluted with saline or heparin, it is recommended that an initial three to five mls of blood be drawn and discarded. Attach a new syringe and withdraw the desired sample amount. Immediately flush the system with saline, and proceed with he desired infusion or heparinization.

E. HEPARIN LOCK PROCEDURE:

A final step in any vascular access procedure is a heparin lock. A syringe containing three to five mls (per your hospital protocol) of heparinized saline at a concentration of 100 units/ml is attached to the extension tubing. The port body and catheter are flushed, limiting the injection rate to ten mls per minute. While injecting the last quarter milliliter, the needle should be withdrawn from the septum. This will prevent blood reflux back into the catheter. The heparin lock helps retard catheter tip occlusion. Venous ports not in use should be routinely heparinized once a month.

F. MAIN POINTS TO REMEMBER:

- * Always access the port using aseptic technique
- Only non-coring huber point needles should be used to access implantable ports
- Insert needle perpendicular to the port septum and advance the needle until it hits/touches bottom of port
- Use a ten ml or larger syringe to access the port
- Never exceed the manufacturer's recommended psi (pressure) limit when delivering fluids through the system.
- Always flush the system with normal saline before and after each drug infusion to verify flow and provide a buffer between drugs
- Continue injecting fluids slowly in to the system while opening or closing the clamp or extension tubing
- Always leave the system filled with three to five mls of heparinized saline (100 units/ml) after each use
- Venous ports should be flushed with heparinized saline once every four weeks when not in use

G. COMPLICATIONS AND TROUBLESHOOTING:

The most common complications of implantable ports are:

- Catheter obstruction- a) one-way (unable to aspirate)
 - b) two-way (unable to aspirate or infuse)
- Vessel thrombosis
- 3. Infection- port pocket or systemic
- 4. Catheter migration or embolization
- Extravasation
- A. Catheter Obstruction
 - One-way obstruction- able to infuse but unable to aspirate

An x-ray should be taken to confirm proper catheter tip placement. A catheter tip abutting the vessel wall is the most common cause of one way obstruction. Aspiration causes the vessel wall to be sucked into the catheter thus blocking blood withdrawal. An infusion, however forces the tip away from the wall and restores patency.

Repositioning of the patient may restore the ability to aspirate from the port. The following maneuvers may be helpful: turn head in opposite direction from the port body; have patient valsalva; have patient cough; have patient extend arms over head. Positional ports may correct themselves during a subsequent access.

One-way obstruction may also be caused by a fibrin sheath encapsulating the catheter tip. A dye study will confirm sheath presence. The catheter should be "kinased" to restore two-way patency (see next section).

2. Two way obstruction- unable to infuse or withdraw blood

Though there may be several reasons for two-way obstruction (e.g. thrombosis, catheter migration, etc.), the most common reason is catheter occlusion secondary to blood clot.

Kinase (either Urokinase or Streptokinase) is the drug of choice for catheter declotting. Urokinase is preferred due to the decreased chance of allergic reactions. The drug should be prepared and instilled according to the manufacturer's labelling.

Repeated instillations may be required. In addition, the clinician should be aware of the volume of the port body and catheter.

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Subsequent access of the port should be done with care to prevent repeated occlusions.

H. VESSEL THROMBOSIS

Thrombosis is a clot formation in the vessel (vein) around the catheter or at the tip. Symptoms include shoulder,, neck, or arm pain and subclavian and neck swelling. The diagnosis can be made by venogram. Various treatment regimens may be use (e.g. lysis therapy- a peripheral catheter is imbedded into the clot under fluoroscopy and a kinase infusion is instituted; a systemic heparin infusion; or coumadin therapy). In some cases, the port and catheter may need to be removed.

I. INFECTION

Infections may either be local (port pocket or needle exit site) or systemic. Local infections can usually be treated with antibiotics and the device may be salvaged.

Systemic infections can be documented by blood cultures drawn both peripherally and via the implanted port. Systemic infection is suspected when central cultures are negative but peripheral cultures are positive. The patient should be started on appropriate antibiotics; it may be possible to salvage the device. If central cultures are positive and peripheral cultures are negative, catheter-related sepsis is the probable diagnosis requiring antibiotics and the removal of the device.

J. CATHETER MIGRATION/EMBOLIZATION

Catheters positioned in the superior vena cava may spontaneously migrate to the internal jugular vein. This may be significant in infusing sclerosing agents when the larger vessel is preferable. The catheter can be repositioned under fluoroscopy.

Catheter embolization refers to an event whereby the catheter breaks off from the port body and travels to either the right atrium, right ventricle, or pulmonary artery. It can be the result of port body/catheter separation, impurities in the catheter material, inappropriate placement, or inadvertent weakening of the catheter wall by a needle stick. Catheter fragments can be retrieved under fluoroscopy.

K. EXTRAVASATION

Extravasation is the misperfusion of drug into the suboutaneous tissue. The most common cause is needle misplacement or dislodgement. However, there may be other reasons: Backtracking of drug due to thrombosis; separation of catheter from port body; or infusion pressure exceeding recommended limits.

When accessing an implantable port, care should be taken to verify needle placement by blood aspiration. A saline flush should be performed to check for swelling at the needle insertion site. Needles should be well secured in place to prevent accidental dislodgement.

Interventions for extravasation management may include: surgery (excision of all affected tissue followed by skin grafting); pharmacologic measures (local antidote and/or topical or systemic antibiotics); and physiologic measures (local application of heat or cold). Each institution should follow their own accepted extravasation management protocol.

Adapted from "The care and management of Implantable vascular access ports" program for continuing education via Washington State Nurses Association and Davol Nursing Procedure Manual

Trouble Shooting Tips

- Aspiration Difficulties
- A. Possible Causes
 - Failure to flush according to catheter irrigation procedure.
 - Blood clot, Fibrin Sheath, or particulate matter obstructing valve when catheter is aspirated.
 - Kinked catheter outside or inside the body.
- B. Possible Solutions
 - Visually check catheter for any exterior kinks or constricting sutures.
 - *Attempt to flush vigorously with 10cc normal saline."
 - Change patients position
 - Attempt to aspirate with a 20cc syringe (creates a greater vacuum)

II. Blood Back in Catheter

A. Possible Causes

- Blood clot or particulate matter may be holding the valve open.
- * Migration or placement of the catheter in the internal jugular vein.
- Placement of the catheter in the right atrium or ventricle.
- Catheter valve tip cut off during catheter placement.

B. Possible Solutions

- * Attempt to aspirate clot out of the lumen.
- Flush vigorously with 10 cc normal saline. (If no resistance is felt).
- Obtain order for chest X-ray or dye study to determine catheter position.
- If malpositioned, coiled or kinked, catheters should be repositioned with the tip in the Superior Vena Cava.
- * If unable to reposition treat catheter as an open ended catheter, using clamp and heparin flushes.

III. Catheter Occlusion

A. Possible Causes

- Blood clot completely obstruction lumen.
- Drug precipitate completely obstructing lumen.
- May be kinked, coiled or pinched between the clavicle and the first rib.
- Catheter valve may not be within vein.
- Sutures can tighten and restrict.

B. Possible Solutions

- Attempt to aspirate blood clot.
- * Reposition patient.
- Obtain physician order for chest x-ray or dye study to determine position of the catheter.
- If the catheter tip is not in the Superior Vena Cava, the catheter should be repositioned

IV. Catheter Damage

A. Possible Causes

- Repeated clamping.
- Contact with a sharp object.
- Rupture from attempt to irrigate an occluded catheter with a small syringe (1 or 3cc syringe).
- Small syringes can generate very high pressures with very little force.

B. Possible Solutions

- Clamp catheter between damaged area and patient with a smooth-edged clamp.
- Always use a 10cc syringe or larger when irrigating the catheter.
- At least 2 inches of intact catheter is needed to be able to repair the body of the catheter.

V. Air in Line

A. Possible Causes

- Hole in catheter.
- Loose connections (Injection cap, IV tubing).
- * Holding the catheter connector end above the level of the heart while the valve is open.
- Oversleeve has not been put on the catheter connector.

B. Possible Solutions

- Check catheter for leakage by flushing well with normal saline.
- Check for loose connections and proper attachment of the connector and oversleeve.
- * Aspirate air from catheter.

Management of I.V. Therapy

Elsie Adkins, RN Intravenous Specialist

IV SITE SELECTION

Anatomy and physiology

- A. Skin Layers
 - Epidermis
 - Dermis
- B. Vein Versus Arteries
 - 1. Tunica Intima
 - 2. Tunica Media
 - Tunica Adventitia
- C. Structure of peripheral veins
 - 1. Digital
 - 2. Metacarpal
 - Cephalic
 - 4. Basilic
 - Accessory
 - 6. Anticubital
- D. Suggestions for starting difficult IV's
 - Elderly
 - 2. Gravity
 - Tapping
 - Warm compresses

E. Special Precautions

- 1. Elderly
- 2. Obese
- Drug abusers
- 4. Children

F. Indications for electronic infusion devices

- Accurate delivery of medication
- Deliver very large or small volumes of fluid at very fast or slow rates accurately
- Patients who cannot tolerate fluid overload

Patient approach

- Always explain the procedure to the patient and encourage relaxation and cooperation
- Good handwashing and proper handling of equipment are necessary for good infectious disease control
- Good venipuncture technique
 - a: make the vein as prominent as possible
 - b. position the vein during venipuncture to prevent movement
 - c. apply tourniquet loosely with small fragile veins
 - d. explain to the patient what type of device is in the vein
 - to discontinue an IV always apply pressure at the site using a sterile bandage or gauze for three minutes.
 - avoid alcohol: alcohol stings and promotes bleeding

COMPLICATIONS OF IV THERAPY

Unfortunately, there are complications associated with IV therapy. However, if the nurse is aware of these potential hazards the hazardous effects may be lessened if not prevented. Identified below are six major complications of IV therapy, their causes, symptoms, and the action to be taken.

LOCAL INFILTRATION

Definition: Infusion of an infused substance into surrounding tissues due to

dislodgement of IV cannula, weakened vein wall, or vein wall perforation.

Signs & Symptoms: * swollen IV site (may also be swollen below site)

* discomfort/pain at insertion site

* IV solution continues to drip when tourniquet place above running IV (must be tight enough shut off venous flow)

* no blood return * IV rate slows or stops

* coolness over area of swelling

Nursing Action: * discontinue IV line

* restart line above infiltration * apply warm compresses to site

Prevention: * secure site

* be sure tape does not constrict circulation

PHLEBITIS

Definition: Inflammation of the vein caused by bacterial (improper insertion technique,

poor hand washing, poor site preparation, poor dressing care), mechanical (insecurely taped site, IV located in unstable area, migration of cannula in and out of site), and chemical (initation by medication or solutions).

Signs & Symptoms:

- * redness, soreness, drainage at insertion site
- * redness follows course of vein
- * fever
- patient complains of burning sensations

Nursing Action:

- * discontinue IV line
- * restart in another site
- * apply warm compresses
- * notify physician (culture of drainage may be ordered)

3

Prevention: * utilization of aseptic technique

* routine site observation * routine dressing changes

* avoid joints and decrease cannula manipulation

* use large vein for irritating medications or solutions

CIRCULATORY OVERLOAD

Definition: Extreme administration of IV fluids particularly seen in elderly and infants

caused by infusing too much fluid, infusing fluid too rapidly, or inaccurate

monitoring of IV infusions.

Signs & Symptoms: * increa

* increased blood pressure

* increased venous pressure (CVP)

* venous distention (jugular venous distention)

* increased respirations * shortness of breath

* crackles

* discrepancies between intake and output

Nursing Action:

* decrease infusion to keep-vein-open rate

* raise head of bed or place in sitting position

* monitor vital signs * notify physician

* administer oxygen if ordered

Prevention:

* monitor intake and output

* be alert to patient with cardiovascular history

* time tape all IV bags

* utilize infusion pump when needed

* frequently monitor infusion rates

SYSTEMIC INFECTION

Definition:

Foreign proteins present in either the infusion solution or administration set

which has the potential to cause fever.

Signs & Symptoms:

abrupt temperature elevation

* tachycardia

* chills

* patient complaints of malaise

* hypotension

4

Nursing Action:

- * notify physician
- * change infusion site, solution, and

administration set * monitor vital signs

* save solution and administration set for culture

Prevention:

- * utilization of aseptic technique
- * maintain clean and dry insertion site * check equipment expiration dates * discontinue any solution after 24 hours
- * change tubing per institutional policy

SPEED SHOCK

Definition:

Reaction to infusion fluids containing drugs due to rapid administration or

improper administration of bolus infusion.

Signs & Symptoms:

- * flushed face
- * headache * chest tightness * irregular pulse
- * shock
- * cardiac arrest

Nursing Action:

- * discontinue drug infusion
- * notify physician
- * begin infusion of D5W at KVO

Prevention:

- * be alert to transfusion recommendations made by medication
- manufacturers, pharmacy, or drug manuals
- * monitor flow rates

AIR EMBOLISM

Definition:

Entrance of air into systemic circulation caused by dry IV lines, large air

bubbles in tubing, and loose connections.

Signs and Symptoms:

- * hypotension
- * loss of consciousness
- * cyanosis

5

* weak rapid pulse

* rise in CVP

Nursing Action:

* position patient on left side with head down

* notify physician

* administer oxygen if ordered

Prevention: *

* prime all tubing

* tape or Luer-Lok all connections

* change all containers prior to becoming empty

5

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